COMPACT DISC PLAYER

DP-730

SERVICE MANUAL

KENWOOD

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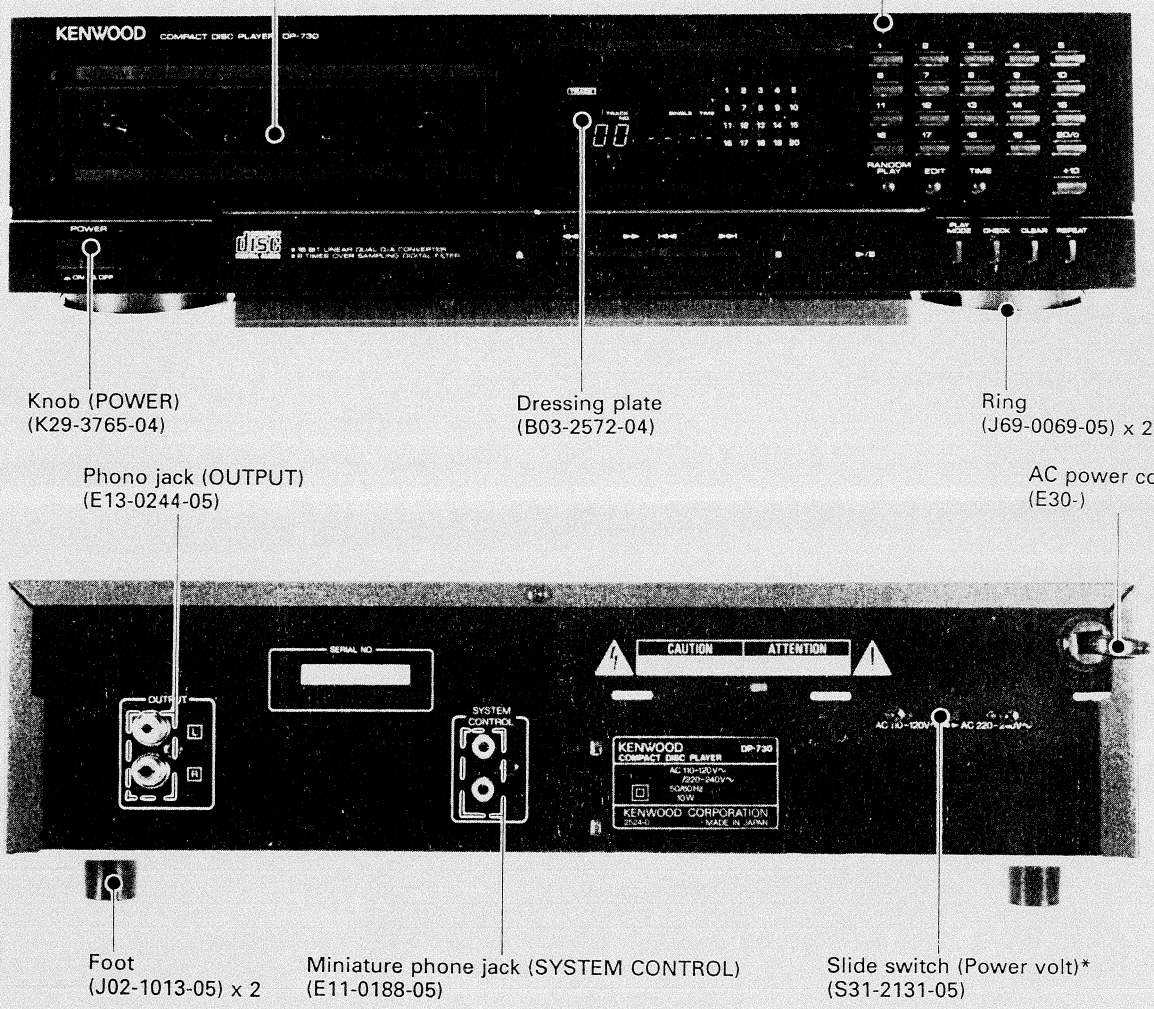
B51-3951-00 (O) 1702



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DANGER : Laser radiation when open and interlock defeated. AVOID DIRECT EXPOSURE TO BEAM.

Caution :
The mechanism ass'y used with the DP-730 varies in three types depending on the manufacturing location. (Japan, Singapore, France).

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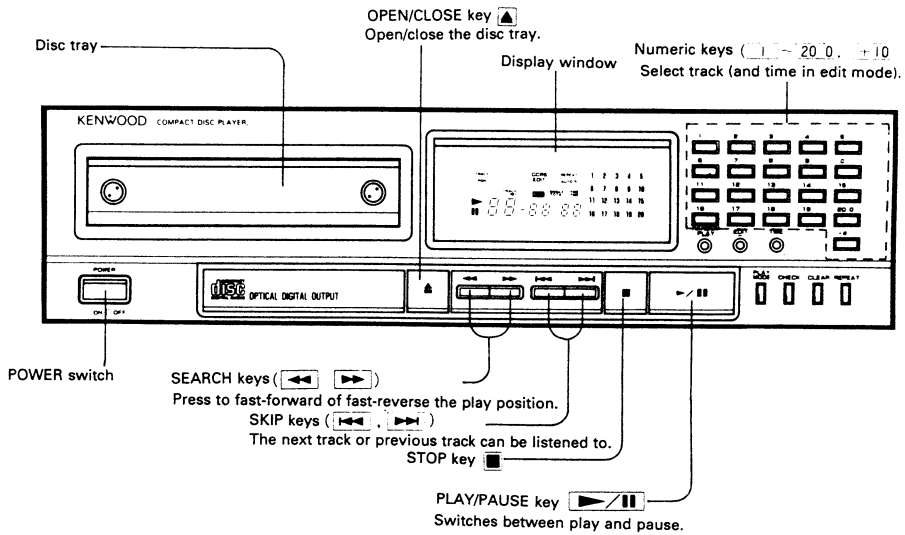
SPECIFICATIONS ..... BACK COVER

	JAPAN MADE	SINGAPORE MADE	FRANCE MADE
OPERATION UNIT*	X25-3730-01	X25-3802-70	X25-3802-71
CONTROL UNIT*	X32-1480-22 (M) X32-1482-72 (TEX)	X32-1522-71	X32-1522-73
MECHANISM ASS'Y	X92-1370-00 (CDM-14)	X92-1400-00 (CDM-14SA)	X92-1440-00 (CDM-14X)

* The electric circuit is the same for every products.

Caution :
The mechanism ass'y used with the DP-730 varies in three types depending on the manufacturing location. (Japan, Singapore, France).

CONTROLS

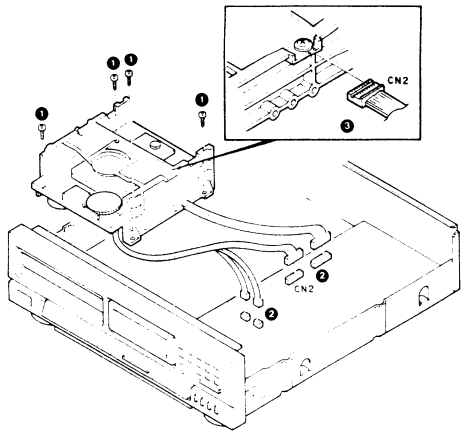


DISASSEMBLY FOR REPAIR

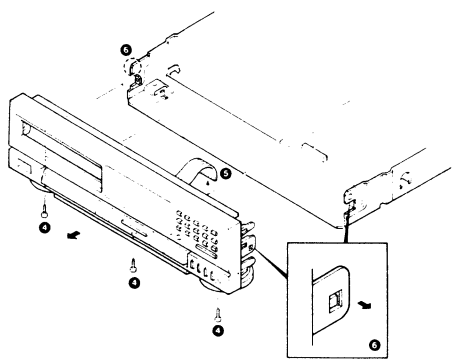
1. Removing the Outside Fittings

* Remove the tray.

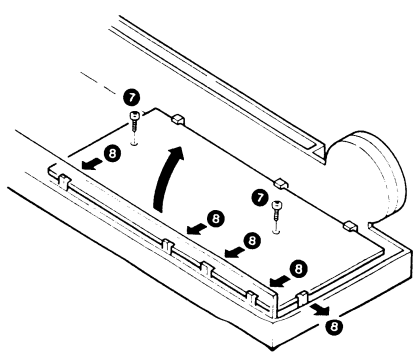
1. Remove the four screws (❶).
2. Disconnect the four connectors (❷).
3. Connect CN2 connector to the LD short pin (❸).



4. Remove the three screws (❹).
5. Remove the flexible wires (❺).
6. Disengage the stoppers on both sides (❻), then remove the front panel.



7. Remove the two screws (❼).
8. Disengage the five stoppers (❽), then remove the circuit board.



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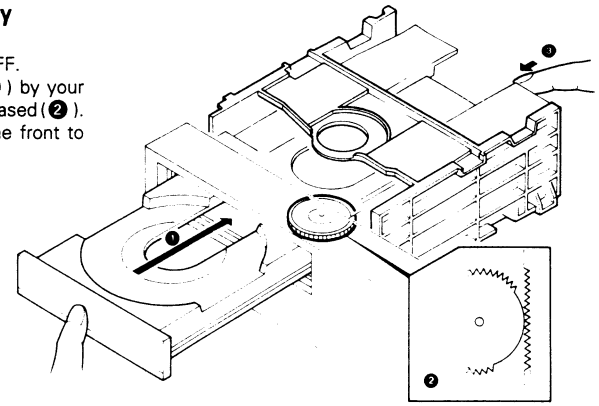
DISASSEMBLY FOR REPAIR

2. Removing and Installing the Tray

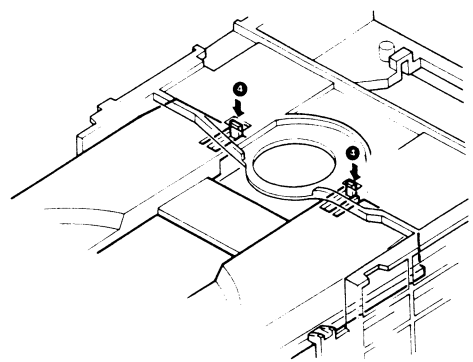
2-1. Removing the tray

* Open the disc tray and turn the power OFF.

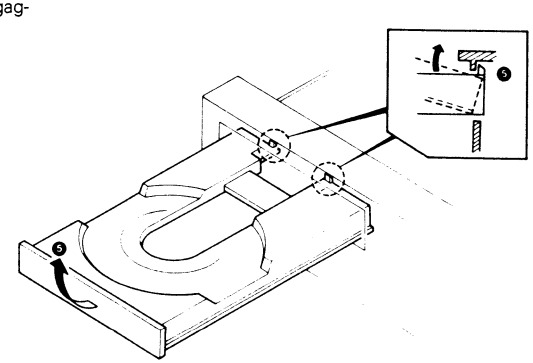
1. Push the tray gradually into the unit (❶) by your hand. In this condition, the gear will be released (❷).
2. Push the rear end of the tray toward the front to remove the tray until it stops (❸).



3. Release the two stoppers (❹) and take out the tray front the unit.



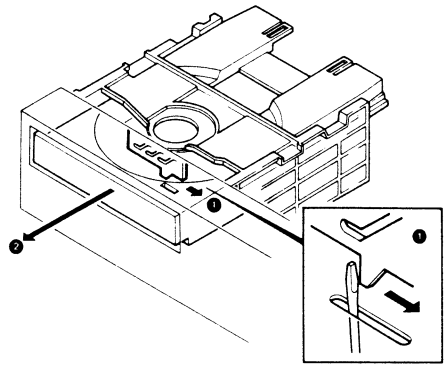
4. When removing the tray, release the stoppers in the direction of the arrow (❺) to prevent it from engaging with the sub panel.



DISASSEMBLY FOR REPAIR

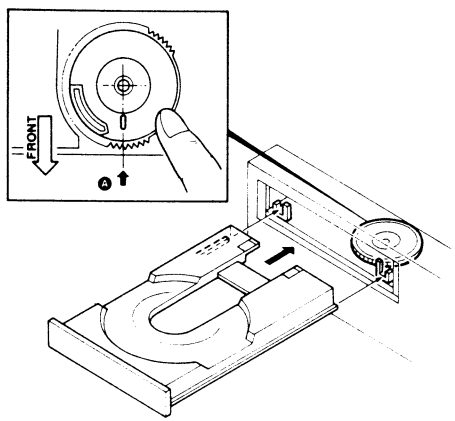
2-2. When the power can not be turnte ON, or when the tray can not be opened by pressing the OPEN key

1. Insert the screwdriver into the hole located on the bottom of the unit, as shown in the diagram, and push the lever with the screwdriver (❶).
2. When the tray is comes out slightly, the gear is released. Then take out the tray toward the front (❷).



2-3. Installing the tray

1. Set the gear to the position (Ⓐ) shown in the diagram.
2. Insert the tray along with the guide rails on the both sides.



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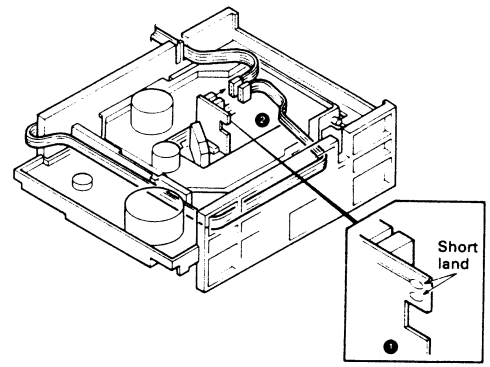
DISASSEMBLY FOR REPAIR

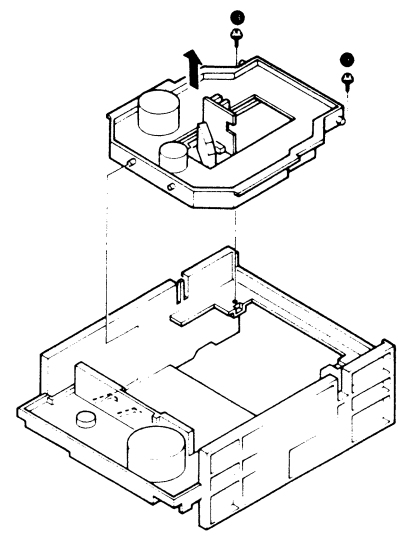
JAPAN MADE

3. Removing the Pickup (Japan made)

1. Turn over the mechanism and short the short land of the pickup (❶).
2. Disconnect the two connectors (❷).

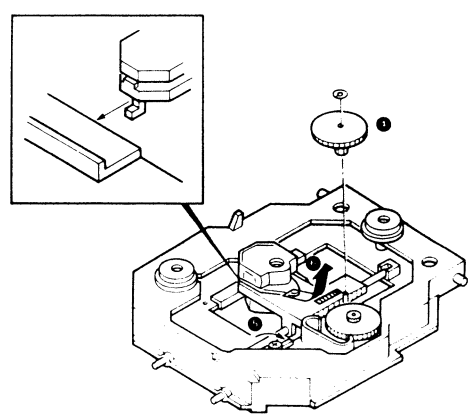


3. Remove the two screws (❸), then remove the MD assembly.



4. Remove the snap ring, then remove the gear (❹).
5. Remove the stopper (❺).
6. Remove the pickup in the direction of the arrow (❻).

Note : When installing the pickup, in the reverse order of disassembly.
Unsolder the short land after connecting the connector.



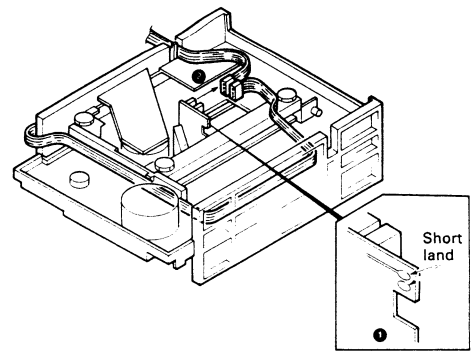
DISASSEMBLY FOR REPAIR

SINGAPORE, FRANCE MADE

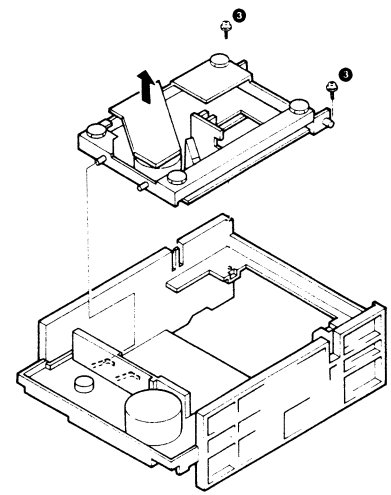
3. Removing the Pickup

(Singapore and France made)

1. Turn over the mechanism and short the short land of the pickup (❶).
2. Disconnect the two connectors (❷).

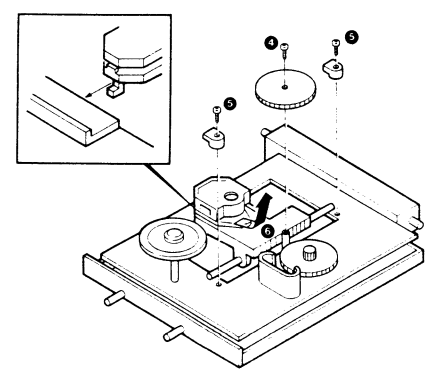


3. Remove the two screws (❸), then remove the MD assembly.

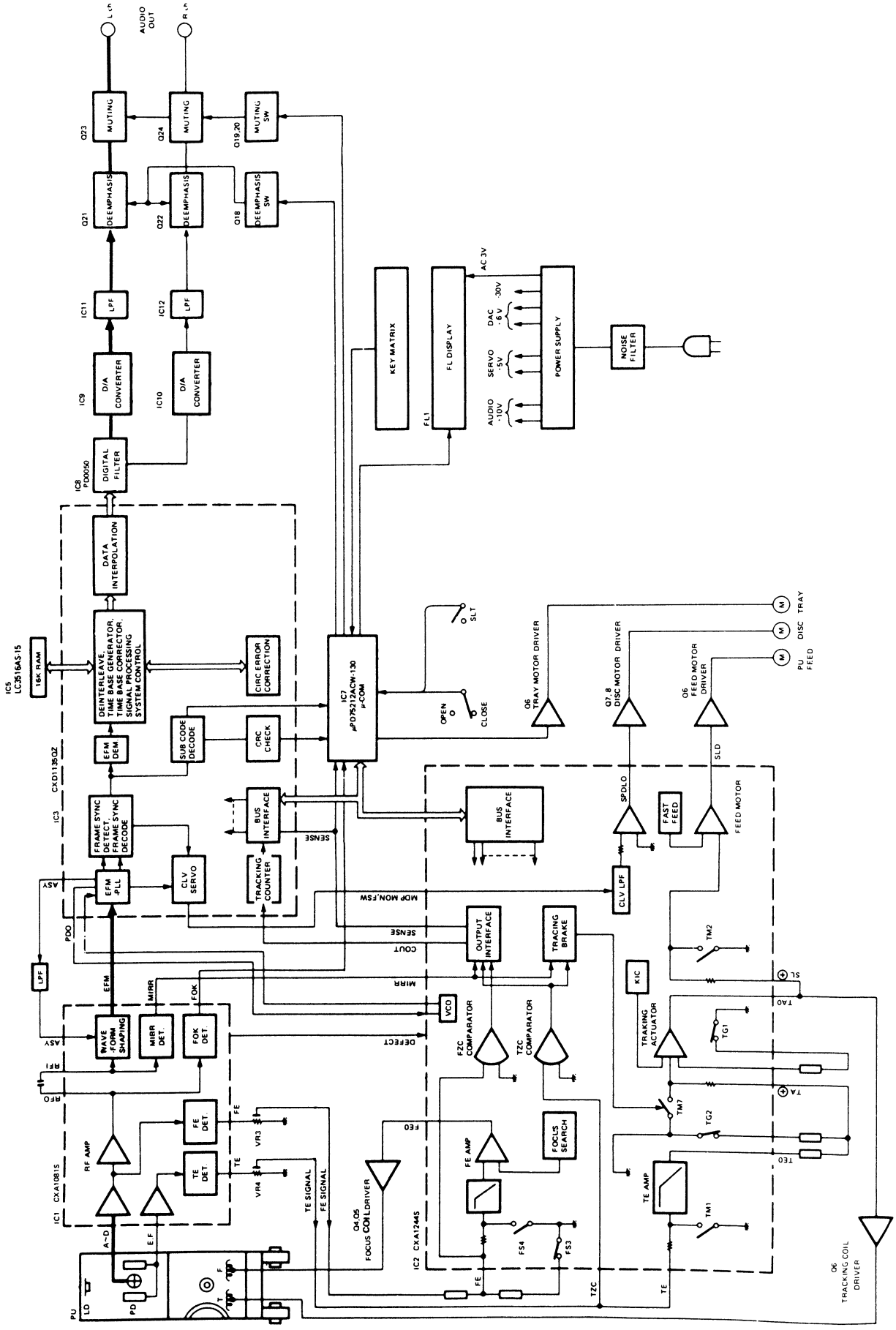


4. Remove the screw, then remove the gear (❹).
5. Remove the stopper (❺).
6. Remove the pickup in the direction of the arrow (❻).

Note : When installing the pickup, in the reverse order of disassembly.
Unsolder the short land after connecting the connector.



BLOCK DIAGRAM



1. Description of Components

1-1. CONTROL UNIT (X32-1482-72)

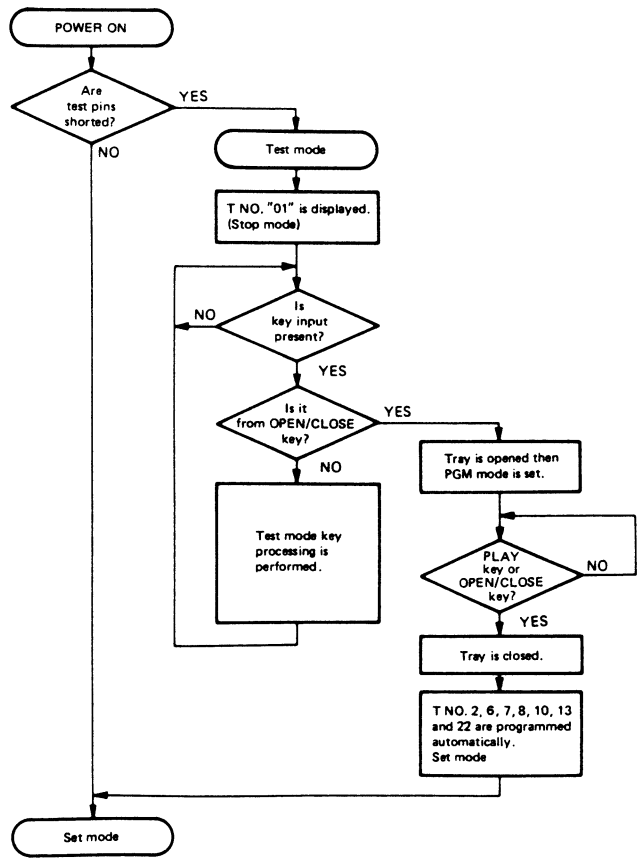
Ref. No.	Parts No.	Use/Function	Operation/Condition/Compatibility
IC1	CXA1081S	RF amp	Focusing error signal generator, tracking error signal generator, RF signal generator and phase comparator, and auto-symmetry corrector circuit.
IC2	CXA1244S	Servo signal processor	Generation of focusing servo, tracking servo and feed servo pulses for servo control.
IC3	CXD1135QZ	Digital signal processor	All digital signal processing operations, including the EFM data demodulator, error corrector, interpolation circuit, PLL circuit, CLV servo circuit, digital output circuitry, etc.
IC4	LC3518BSL-15	S-RAM	Signal processing RAM (16K).
IC5	NJM4558D	Operation amp	(1/2) PLL compensation circuit (LPF + amp). (2/2) CLV compensation circuit (LPF + level shifter).
IC6	NJM4558D	Operation amp	(1/2) Power ON/OFF reset pulse generation. (2/2) Tray motor drive.
IC7	µPD75212ACW-130	Microprocessor	Display control, key input processing and servo IC control.
IC8	PD0050	Digital filter	8x over-sampling digital filter (16-bit).
IC9, 10	PCM56P-L-1	D/A converter	Conversion of 16-bit digital data into an analog form.
IC11, 12	NJM4565D	I/V conversion	Conversion of D/A converter current output into a voltage form.
IC13	NJM4558D	Operation amp	(1/2) Operation amplifier of –6V regulated power supply. (2/2) Operation amplifier of +6V regulated power supply.
Q2	2SC945(A)(Q,P)	Switch	Focusing error amp bias switch.
Q3	2SC945(A)(Q,P)	Amplifier	Amplifier for ATSC.
Q4	2SD1944	Driver	Focusing coil driver.
Q5	2SA1534A	Driver	
Q6	STA341M	Driver	(1/3) Tray motor driver. (2/3) Feed motor driver. (3/3) Tracking coil driver.
Q7	2SC3940A	Driver	Disc motor driver.
Q8	2SA1534A	Driver	
Q9	DTC124ES	Switch	Reset pulse generating switch.
Q10	2SD1944	Filter	Ripple filter for +5V regulated power supply.
Q13	2SA1534A	Filter	Ripple filter for –5V regulated power supply.
Q17	2SA954(L,K)	Filter	Ripple filter for FL (–30V).
Q18	DTA124ES	Switch	De-emphasis switch.
Q19	DTA124ES	Switch	Line muting switch.
Q20	DTC124ES	Switch	
Q21, 22	2SC2878(B)	Switch	De-emphasis switch.
Q23, 24	2SC2878(B)	Switch	Line muting switch.
Q25	2SA954(L,K)	Ripple filter	Ripple filter for +6V regulated power supply.
Q26	2SC2003(L,K)	Ripple filter	Ripple filter for –6V regulated power supply.

2. Test Mode

2-1. Setting the test mode

Unlike previous models, this microprocessor can be put to the test mode by just short-circuiting the test pins even in the set mode (normal condition). (However, the disc must be present in the unit.)

The test mode can also be initiated with the previous method, i. e. by switching the power on with the test pins short-circuited.



2-2. Key and functions valid in test mode

No.	Input key	Function	Track No. display
1	PLAY	(1) Focusing servo . . . . . ON. (2) Tracking servo . . . . . ON. (3) Feed servo . . . . . ON.	05 Displayed for a few seconds after completion of (1), (2) and (3). Disc Track No. is displayed.
2	CHECK	(1) Focusing servo . . . . . ON. (2) Tracking servo . . . . . OFF. (3) Feed servo . . . . . OFF.	Track No. 03
3	CLEAR	(1) Focusing servo . . . . . ON. (2) Tracking servo . . . . . ON. (3) Feed servo . . . . . OFF.	Track No. 04
4	STOP	(1) Focusing servo . . . . . OFF. (2) Tracking servo . . . . . OFF. (3) Feed servo . . . . . OFF.	Track No. 01
5	REPEAT	(1) Tray . . . . . Opened. (2) Laser . . . . . ON. The REPEAT function is canceled when the tray is closed by pressing the tray. The Track No. display 01.	Track No. 02
6	▶▶ (UP)	Turns all FL display lamps ON.	
7	◀◀ (DOWN)	Turns all FL display lamps OFF.	
8	Numeric key (0 ~ 9)	Jumps tracks as shown below.	
9	OPEN/CLOSE	When the tray is opened then closed, Track No. 2, 6, 7, 8, 10, 13 and 22 are programmed and the test mode is canceled.	
10	P.MODE	Track No. 2, 6, 7, 8, 10, 13 and 22 are programmed and the test mode is canceled.	

Key	1	2	3	4	5
Number of tracks	16	32	128	512	1024
Direction	Outer				
Key	6	7	8	9	0
Number of tracks	16	32	128	512	1024
Direction	Inner				

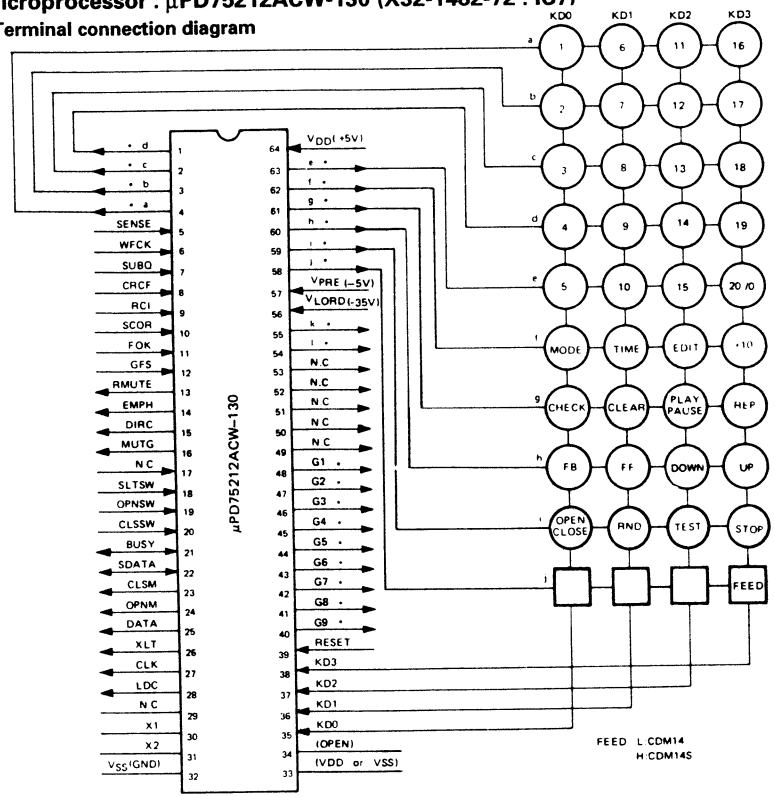
Note : In test mode, characters "TRACK NO." go OFF every time a track key is pressed or a key is pressed for checking PC board wiring.

DP-730

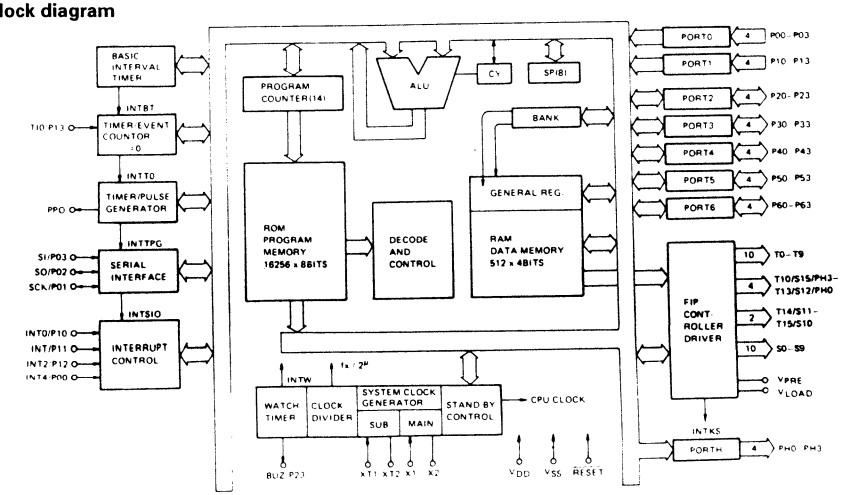
CIRCUIT DESCRIPTION

3. Microprocessor : μPD75212ACW-130 (X32-1482-72 : IC7)

3-1. Terminal connection diagram



3-2. Block diagram



3-3. Explanation of terminals

Terminal No.	Terminal Name	I/O	Function Name	Function
1 ~ 4	S3 ~ S0	O	d ~ a	FL segment control terminals (also used for key scan signals).
5	P00/INT4	I	SENSE	Signal detection terminal for SENSE signal from signal processor and servo ICs.
6	P01/$\overline{SCK}$	I	WFCK	Q data read clock input terminal.
7	P02/SO	I	SUBQ	Q data input terminal.
8	P03/SI	I	CRCF	Q data CRC check result input terminal. ("H" : OK)
9	P10/INT0	I	RCI	Remote control input terminal.
10	P11/INT1	I	SCOR	Sub-code frame sync detection signal input terminal.
11	P12/INT2	I	FOK	Input terminal for FOK signal from RF amp.
12	P13/TIO	I	GFS	Frame sync signal input terminal. ("H" : Frame sync)
13	P20	O	RMUTE	Analog muting control terminal. (Active "L")
14	P21	O	EMPH	Deemphasis control terminal. (Active "H")
15	P22	O	DIRC	DIRC terminal of servo IC.
16	P23	O	MUTG	MUTE terminal of signal processor IC. (Active "H")
17	P30	–	–	Not used.
18	P31	I	SLTSW	Sled limit switch. (Innermost position : "L")
19	P32	I	OPNSW	Tray open switch. (Open : "L")
20	P33	I	CLSSW	Tray close switch. (Close : "L")
21	P60	I/O	BUSY	Serial BUSY signal input/output terminal.
22	P61	I/O	SDATA	Serial DATA signal input/output terminal.
23	P62	O	CLSM	Tray motor close terminal.
24	P63	O	OPNM	Tray motor open terminal.
25	P40	O	DATA	Signal processor and servo IC control output terminal.
26	P41	O	XLT	Signal processor and servo IC control output terminal.
27	P42	O	CLK	Signal processor and serco IC control output terminal.
28	P43	O	LDC	Laser ON/OFF signal output terminal. (Active "L")
29	PPO	–	–	Not used.
30, 31	X1, X2	I/O	X1, X2	System clock input/output terminals.
32	VSS	–	VSS	GND.
33, 34	XT1, XT2	–	–	Not used.
35 ~ 38	P50 ~ P53	I	KD0 ~ KD3	Input terminals for key return signals from key matrix.
39	RESET	I	$\overline{RESET}$	Reset input terminal. (Active "L")
40 ~ 48	T0 ~ T8	O	G9 ~ G1	FL digit control terminals.
49 ~ 51	T9 ~ T11	–	–	Not used.
52	S13	O	FBSW	Focusing bias switch. (Active "L")
53	S12	O	DFSW	Defect switch. (Active "H")
54, 55	S11, S10	O	l, k	FL segment control terminals.
56	VLOAD	I	VLOAD	FL driver negative power supply. (–30V)
57	VPRE	I	VPRE	FL predriver power supply.
58 ~ 63	S9 ~ S4	O	j ~ e	FL segment control terminals. (Also used for key-scan signals)
64	VDD	I	VDD	Power supply. (+5V)

4. RF AMP : CXA1081S (X32-1482-72 : IC1)

General

The CXA1081S is an IC developed for use in Compact Disc players. It incorporates a 3-spot optical pickup RF output amplifier, a focusing error amplifier, a tracking error amplifier, and other signal processing circuitry, such as focus OK, mirror, defect, and EFM comparator circuits, as well as a laser diode APC (Automatic Power Control) circuit.

Features

- Operates on a signal + 5 V power supply, as well as on a ±5 V dual-voltage power supply.
- Low power consumption (100 mW with ±5 V, 50 mW with + 5 V).
- An APC circuit which accepts either a P-sub or N-sub laser diode.
- A minimum of external parts required.
- A disc defect detector circuit for improved playability.

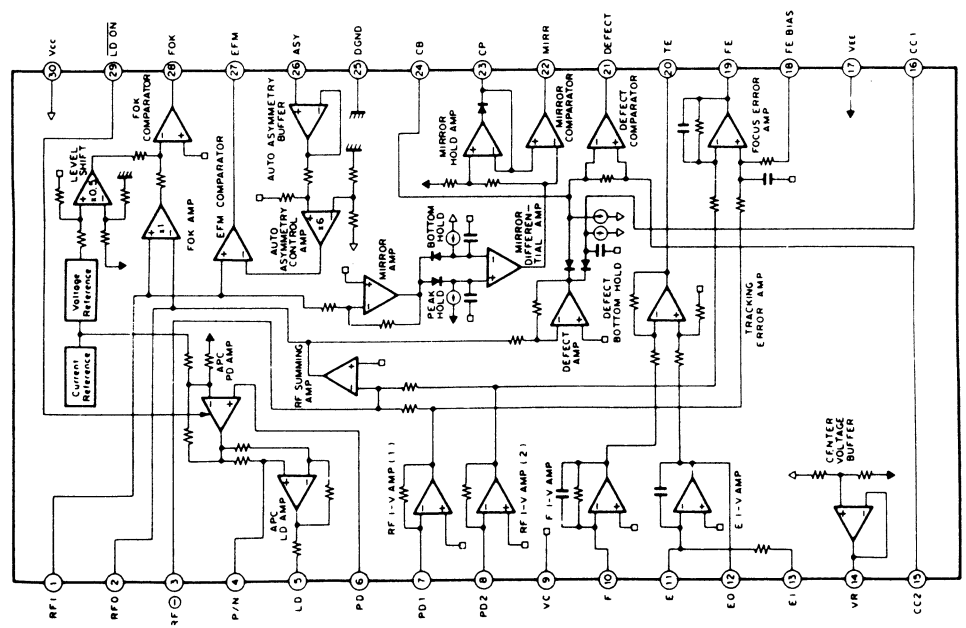
Structure

Bipolar silicon monolithic IC

Functions

- RF amplifier
- Focus OK detector circuit
- Mirror detector circuit
- Tracking error amplifier
- Defect detector circuit
- APC circuit
- EFM comparator
- Auto asymmetry control amplifier

4-1. Block diagram



4-2. Explanation of terminals (V_{CC} = 2.5V, V_{EE} = D_{GND} = –2.5V, VC = GND)

Terminal No.	Terminal name	I/O	DC voltage (V)	Function
1	RFI	I	0	Input pin for the C-coupled signal output from the RF summing amplifier
2	RFO	O	V_{RFO}	RF summing amplifier output pin. Used as the check point for the eye pattern
3	RF⊖	I	0	RF summing amplifier feedback input pin
4	P/N	I	0 (VC)	P-sub/N-sub select pin for the LD (Laser Diode) (DC voltage: in N-sub mode)
5	LD	O	– 1.8	*APC LD amplifier output pin (DC voltage: PD open in N-sub mode)
6	PD	I	0	*APC LD amplifier input pin (DC voltage: open)
7	PD1	I	0	RF I-V amplifier (1) inverted input pin Current input by connecting to the photodiode A + C terminal
8	PD2	I	0	RF I-V amplifier (2) inverted input pin Current input by connecting to the photodiode B + D terminal
9	VC	–	0	Connected to GND when using a positive (+) / negative (–) dual-voltage power supply Connected to VR (pin 14) when using a single-voltage power supply
10	F	I	0	F I-V amplifier inverted input pin Current input by connecting to the photodiode F terminal
11	E	I	0	E I-V amplifier inverted input pin Current input by connecting to the photodiode E terminal
12	EO	O	0	E I-V amplifier output pin
13	EI	I	0	E I-V amplifier feedback input pin. For E I-V amplifier gain adjustment
14	VR	O	V_{CVO}	DC voltage output pin of (V_{CC} + V_{EE})/2
15	CC2	I	1.0	Input pin for the C-coupled signal output from the defect bottom hold
16	CC1	O	1.2	Defect bottom hold output pin
17	V_{EE}	–	– 2.5	Connected to the negative power supply when using a positive (+) / negative (–) dual-voltage power supply. Connected to GND when using a single-voltage power supply
18	FE BIAS	I	0	Bias pin on the focus error amplifier non-inverted side For CMR adjustment of the focus error amplifier
19	FE	O	V_{FEO}	Focus error amplifier output pin
20	TE	O	V_{TEO}	Tracking error amplifier output pin
21	DEFECT	O	V_{DEFO}	Defect comparator output pin (DC voltage: connected to a 10 k-ohm load)
22	MIRR	O	V_{MIR}	Mirror comparator output pin (DC voltage: connected to a 10 k-ohm load)
23	CP	I	– 1.3	Mirror hold capacitor output pin Mirror comparator non-inverted input
24	CB	I	0	Defect bottom hold capacitor connect pin
25	DGND	–	– 2.5	Connected to GND when using a positive (+) / negative (–) dual-voltage power supply Connected to GND (V_{EE}) when using a single-voltage power supply
26	ASY	I	–	Auto asymmetry control input pin
27	EFM	O	V_{EFMO}	EFM comparator output pin (DC voltage: connected to a 10 k-ohm load)
28	FOK	O	V_{FOK}	FOK comparator output pin (DC voltage: connected to a 10 k-ohm load)
29	LD ON	I	– 2.5 (DGND)	LD ON/OFF select pin (DC voltage: when LD ON)
30	**V_{CC}**	–	**2.5**	**Positive power supply**

*APC: Automatic Power Control

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CIRCUIT DESCRIPTION

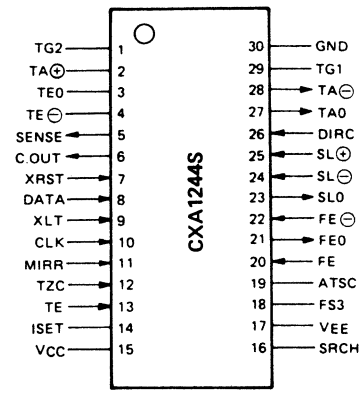
5. Servo control : CXA1244S (X32-1482-72 : IC2)

CXA1244S is a bipolar IC developed for servo of compact disc (CD) players, and it provides the following functions.

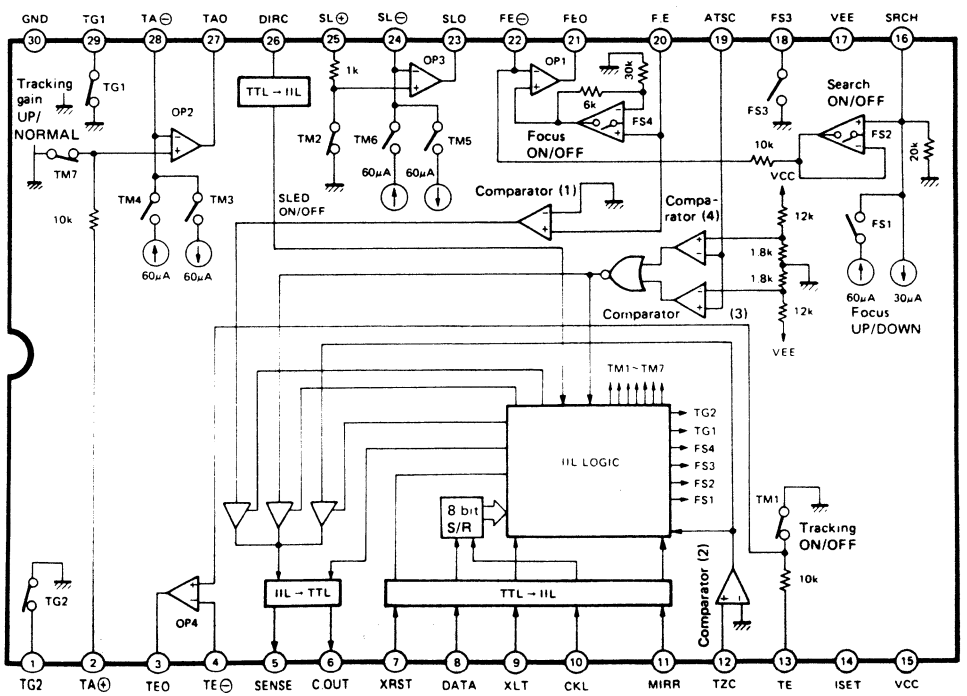
- Focus control (search ON/OFF, gain control)
- Tracking control (servo ON/OFF, single track jump, multiple track jump, gain control, phase compensation control, brake circuit)
- Sled control (servo ON/OFF, fast forward, fast reverse)

Servo function of each of focus, tracking and sled as well as random access operation are realized through control by microcomputer. Furthermore, the serial data bus can be shared with CX23035.

5-1. Terminal connection diagram



5-2. Block diagram



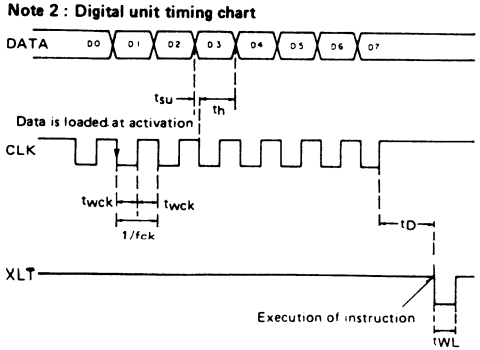
5-3. Explanation of terminals

Terminal No.	Terminal name	I/O	Functions
1	TG2		Tracking amplifier gain switching terminal. GND level.
2	TA ⊕		Non-inverted input of operational amplifier 2.
3	TEO		Output of operational amplifier 4.
4	TE ⊖	O	Inverted input of operational amplifier 4.
5	SENSE	O	Output of SSP internal status that corresponds to ADDRESS of CPU → SSP. (Changes in accordance with ADDRESS content of internal serial register.) See Note 1.
6	C.OUT	O	Signal output for counting number of tracks at the time of high speed access.
7	XRST	I	All internal registers are cleared when CPU → SSP "L". Connected with CPU RESET. See Note 2.
8	DATA	I	Serial data transmission of CPU → SSP. Input is made from LSB. D0~D7.
9	XLT	I	Latch of serial data of CPU → SSP. (The contents of internal serial register are transmitted to each address decoded latch.) Transmission at "L". Change to "H" occurs immediately after execution because no edge trigger is produced.
10	CLK	I	CPU → SSP serial data transmission block. Data is read at falling. "H" level before and after transmission.
11	MIRR	I	Mirror signal input from RF amplifier.
12	TZC	I	Tracking error signal is input with C couple. The time constant is determined by one single track jump, but it is usually around 2kHz.
13	TE	I	Tracking error signal input.
14	ISET		Setting of current level for determining focus search voltage, tracking jump voltage and thread feed voltage.
15	Vcc		Power supply terminal. Normally −5V.
16	SRCH		The condenser for determining the time constant of charge/discharge waveform for focus search is connected.
17	VEE		Power supply terminal. Normally −5V.
18	FS3		Focus amplifier gain switching terminal. GND level.
19	ATSC		Such information that a mechanical shock was applied to the player is input. Simply, a trakcing error is input through BPF.
20	FE	I	Input of focus error signal.
21	FEO	O	Output of operational amplifier 1.
22	FE ⊖	I	Inverted input of operational amplifier 1.
23	SLO	O	Output of operational output 3.
24	SL ⊖	I	Inverted input of operational amplifier 3.
25	SL ⊕	I	Non-inverted input of operational amplifier 3.
26	DIRC	I	Used at the time of one track jump. Normally "H". The direction of the track jump pulse is reversed with "L". Setting is made in the normal tracking mode by changing to "H". "L" for a fixed length of time with detection of activation, deactivation of TZC.
27	TAO	O	Output of operational amplifier 2.
28	TA ⊖	O	Inverted input of operational amplifier 2.
29	TG1		Tracking amplifier gain switching terminal. GND level.
30	GND		GND terminal of IC.

Note 1 : SENSE terminal output

Serial data (upper 4 bits)	ADDRESS content	SENSE terminal output	Explanation
0 0 0 0	FOCUS CONTROL	FZC	"H" when focus zero cross. Focus error voltage is 0V or higher. Used at the time of FOCUS PULL operation.
0 0 0 1	TRACKING CONTROL	AS	"H" when the ATSC input level exceeds the wind comparator level (VTH = ±Vcc × 13%) But this is not used in this equipment.
0 0 1 0	TRACKING MODE	TZC	Judgement output of positive or negative of tracking zero cross, tracking error when used at the time of single track jump. DIRC is reduced to "L" on detection of TZC ↑ in FWD JUMP or on detection of TZC ↓ in REV JUMP.

Note 2 : Digital unit timing chart



6. Digital signal processor : CXD1135QZ (X32-1482-71 : IC3)

General

The CXD1135QZ is a digital signal processing LSI for a Compact Disc player, and has the following functions.

1. Bit clock reproduction by an EFM-PLL circuit
2. EFM data demodulation
3. Frame sync signal detection, protection and insertion
4. Powerful error detection and correction
5. Interpolation with an average value, or by holding the previous value
6. Demodulation of a sub code signal, error detection of a sub code Q
7. Spindle motor CLV servo
8. 8-bit tracking counter
9. CPU interface with a serial bus
10. Sub code Q register
11. Digital filter
12. Digital audio interface output

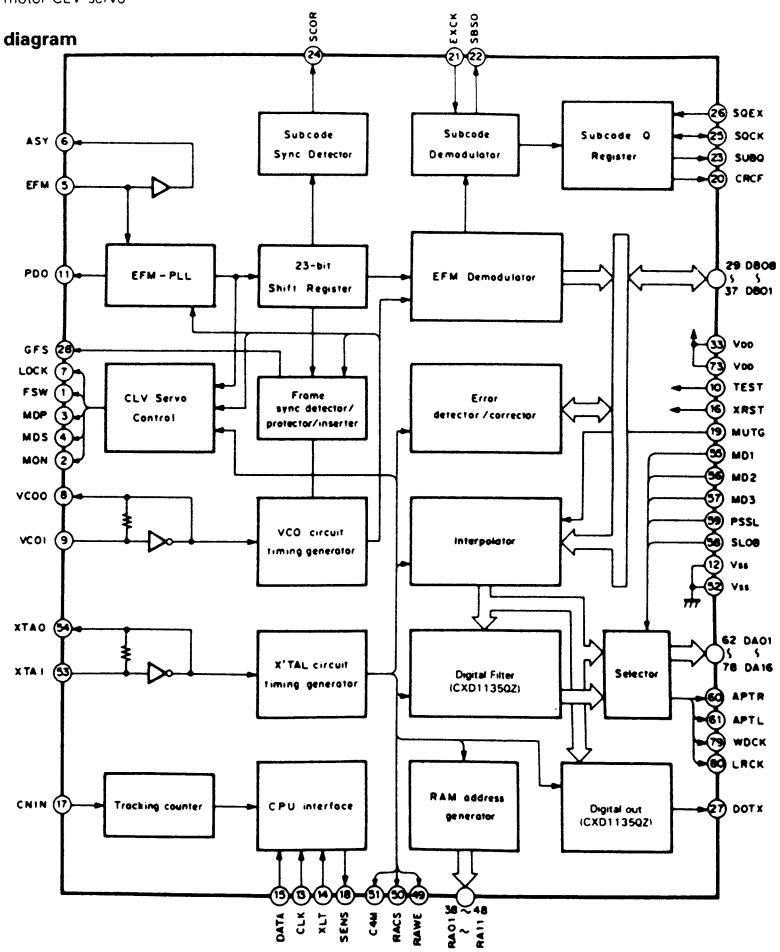
Features

- All digital signals used in playback can be processed using only a single chip
- An aperture-correction digital filter is built in

Structure

CMOS IC

6-1. Block diagram



6-2. Explanation of terminals

Terminal No.	Terminal name	I/O	Function
1	FSW	O	Time constant switching output of output filter of spindle motor
2	MON	O	ON/OFF control output of spindle motor
3	MDP	O	Drive output of spindle motor. Rough speed control in CLV-S mode and phase control in CLV-P mode
4	MDS	O	Drive output of spindle motor. Speed control in CLV-P mode
5	EFM	I	EFM signal input from RF amplifier
6	ASY	O	Output for controlling the slice level of EFM signal
7	LOCK	O	Samples the GFS signal with WFCK/16, and outputs "H" when the level is high. When it is "L" for eight times, in arrow, outputs "L"
8	VCOO	O	VCO output. f = 8.6436 MHz when locked to EFM signal
9	VCOI	I	VCO input
10	TEST	I	(0 V)
11	PDO	O	Phase comparison output of EFM signal and VCO/2
12	Vss	–	GND (0 V)
13	CLK	I	Serial data transmission clock input from CPU. Data is latched at rising edge of a clock
14	XLT	I	Latch input from CPU. Data (serial data from CPU) from the 8 bit shift register is latched in each register
15	DATA	I	Serial data input from CPU
16	XRST	I	System reset input. Reset at "L"
17	CNIN	I	Input of tracking pulse
18	SENS	O	Output of internal status in correspondence to the address
19	MUTG	I	Muting input. In the case when ATTM of internal register A is "L". Normal status when MUTG is "L" or soundless state when it is "H"
20	CRCF	O	Output of result of CRC check of sub code Q
21	EXCK	I	Clock input for sub code serial output
22	SBSO	O	Sub code serial output
23	SUBQ	O	Sub code Q output
24	SCOR	O	Sub code sync S0 + S1 output
25	SQCK	I/O	Sub code Q read-off clock
26	SQEX	I	SQCK select input
27	DOTX	O	DIGITAL OUT output. (Outputs the $\overline{WFCK}$ signal when CXD1130Q or D0 is off)
28	GFS	O	Display output of frame sync lock status
29	DB08	I/O	Data pin of external RAM. DATA8 (MSB)
30	DB07	I/O	Data pin of external RAM. DATA7
31	DB06	I/O	Data pin of external RAM. DATA6
32	DB05	I/O	Data pin of external RAM. DATA5
33	VDD	–	Power supply (+5 V)
34	DB04	I/O	Data pin of external RAM. DATA4
35	DB03	I/O	Data pin of external RAM. DATA3
36	DB02	I/O	Data pin of external RAM. DATA2
37	DB01	I/O	Data pin of external RAM. DATA1 (LSB)
38	RA01	O	Address output of external RAM. ADDR01 (LSB)
39	RA02	O	Address output of external RAM. ADDR02
40	RA03	O	Address output of external RAM. ADDR03
41	RA04	O	Address output of external RAM. ADDR04
42	RA05	O	Address output of external RAM. ADDR05
43	RA06	O	Address output of external RAM. ADDR06

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CIRCUIT DESCRIPTION

Terminal No.	Terminal name	I/O	Function
44	RA07	O	Address output of external RAM. ADDR07
45	RA08	O	Address output of external RAM. ADDR08
46	RA09	O	Address output of external RAM. ADDR09
47	RA10	O	Address output of external RAM. ADDR10
48	RA11	O	Address output of external RAM. ADDR11 (MSB)
49	RAWE	O	Write Enable signal output to external RAM. (Active at "L")
50	RACS	O	Chip select signal output to external RAM. (Active at "L")
51	C4M	O	Crystal dividing output. f = 4.2336 MHz
52	Vss	–	GND (0 V)
53	XTAI	I	Crystal oscillator input. f = 8.4672 MHz or 16.9344 MHz depending on the mode selected
54	XTAO	O	Crystal oscillator output. f = 8.4672 MHz or 16.9344 MHz depending on the mode selected
55	MD1	I	Mode select input 1
56	MD2	I	Mode select input 2
57	MD3	I	Mode select input 3
58	SLOB	I	Audio data output code select input. 2's complement output when "L", offset binary output when "H"
59	PSSL	I	Audio data output mode select input. Serial output when "L", parallel output when "H"
60	APTR	O	Aperture compensation control output. "H" when R-ch
61	APTL	O	Aperture compensation control output. "H" when L-ch
62	DA01	O	DA01 (parallel audio data LSB) output when PSSL = "H", C1F1 output when PSSL = "L"
63	DA02	O	DA02 output when PSSL = "H", C1F2 output when PSSL = "L"
64	DA03	O	DA03 output when PSSL = "H", C2F1 output when PSSL = "L"
65	DA04	O	DA04 output when PSSL = "H", C2F2 output when PSSL = "L"
66	DA05	O	DA05 output when PSSL = "H", C2FL output when PSSL = "L"
67	DA06	O	DA06 output when PSSL = "H", C2PO output when PSSL = "L"
68	DA07	O	DA07 output when PSSL = "H", RFCK output when PSSL = "L"
69	DA08	O	DA08 output when PSSL = "H", WFCK output when PSSL = "L"
70	DA09	O	DA09 output when PSSL = "H", $\overline{PLCK}$ output when PSSL = "L"
71	DA10	O	DA10 output when PSSL = "H", UGFS output when PSSL = "L"
72	DA11	O	DA11 output when PSSL = "H", GTOP output when PSSL = "L"
73	VDD	–	Power supply (+5 V)
74	DA12	O	DA12 output when PSSL = "H", RAOV output when PSSL = "L"
75	DA13	O	DA13 output when PSSL = "H", C4LR output when PSSL = "L"
76	DA14	O	DA14 output when PSSL = "H", $\overline{C21O}$ output when PSSL = "L"
77	DA15	O	DA15 output when PSSL = "H", C21O output when PSSL = "L"
78	DA16	O	DA16 (parallel audio data MSB) output when PSSL = "H", DATA output when PSSL = "L"
79	WDCK	O	Strobe signal output. 176.4 kHz when DF is ON, 88.2 kHz with CXD1125Q or when DF is OFF
80	LRCK	O	Strobe signal output. 88.2 kHz when DF is ON, 44.1 kHz with CXD1125Q or when DF is OFF

Notes:

C1F1 :
C1F2 : Error correction status monitor output for C1 decode.

C2F1 :
C2F2 : Error correction status monitor output for C2 decode.

C2FL : Correction status output. Goes "H" when the currently corrected C2 series data cannot be corrected.

C2PO : C2 pointer signal. Synchronized to the audio data output.

RFCK : Read frame clock output. 7.35 MHz when locked to the crystal line.

WFCK : Write frame clock output. 7.35 MHz when locked to the crystal line.

$\overline{PLCK}$: VCO/2 output. f = 4.3218 MHz when locked to the EFM signal.

UGFS : Non-protected frame sync pattern output.

GTOP : Frame sync protect status display output.

RAOV : ±4 frame jitter absorption RAM overflow and underflow display output.

C4LR : Strobe signal. 352.8 kHz when DF is ON, 176.4 kHz with CXD1125Q or when DF is OFF.

$\overline{C21O}$: C21O invert output.

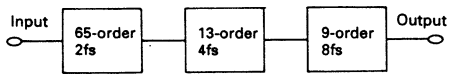
C21O : Bit clock output. 4.2336 MHz when DF is ON, 2.1168 MHz with CXD1125Q or when DF is OFF.

DATA : Audio signal serial data output.

7. Digital filter : PD0050 (X32-1482-72 : IC8)

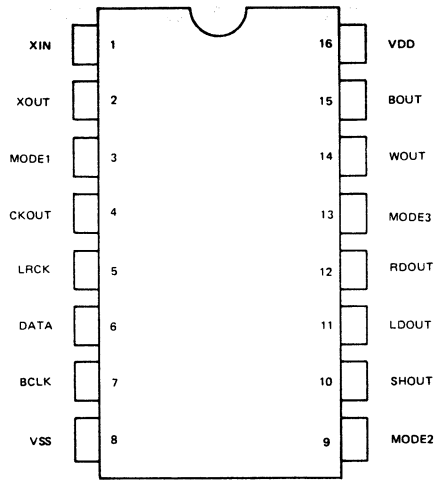
7-1. Functions and features

· Composition of filters



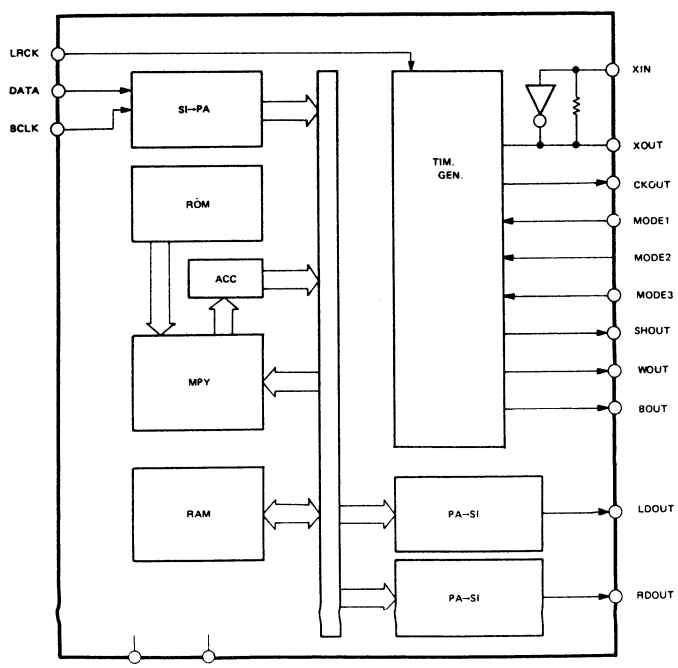
· Input data
  Two's complement, MSB first
· Output data
  Two's complement, MSB first
· TTL compatible
· Jitter free

7-2. Terminal connection diagram



TOP VIEW

7-3. Block diagram



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CIRCUIT DESCRIPTION

7-4. Explanation of terminals

Pin No.	Symbol	Name	I/O	Function
1	XIN	XIN	I	Crystal oscillator circuit input or external input.
2	XOUT	XOUT	O	Crystal oscillator circuit output.
3	MODE1	MODE1	I	Master clock (XIN) and CKOUT select. *1
4	CKOUT	CLOCK OUT	O	External clock output. *1
5	LRCK	LR CLOCK	I	LR clock input.
6	DATA	DATA	I	Serial data input (Two's complement, MSB first).
7	BCLK	BIT CLOCK	I	Bit clock input for input data.
8	Vss	–	–	Grounding terminal.
9	MODE2	MODE2	I	"H" : 18-bit data output, "L" : 16-bit data output.
10	SHOUT	SHOUT	O	Sample holding pulse output.
11	LDOUT	Lch DATA OUT	O	Lch data output (Two's complement, MSB first).
12	RDOUT	Rch DATA OUT	O	Rch data output (Two's complement, MSB first).
13	MODE3	MODE3	I	Master clock (XIN) and CKOUT select. *1
14	WOUT	WORD CK OUT	O	Word clock output.
15	BOUT	BIT CK OUT	O	Bit clock output for LDOUT and RDOUT.
16	VDD	–	–	+5V power terminal.

*1 Master clock (Frequency of crystal oscillator or that of external input) can be selected from the following by using terminals MODE1 and MODE3.

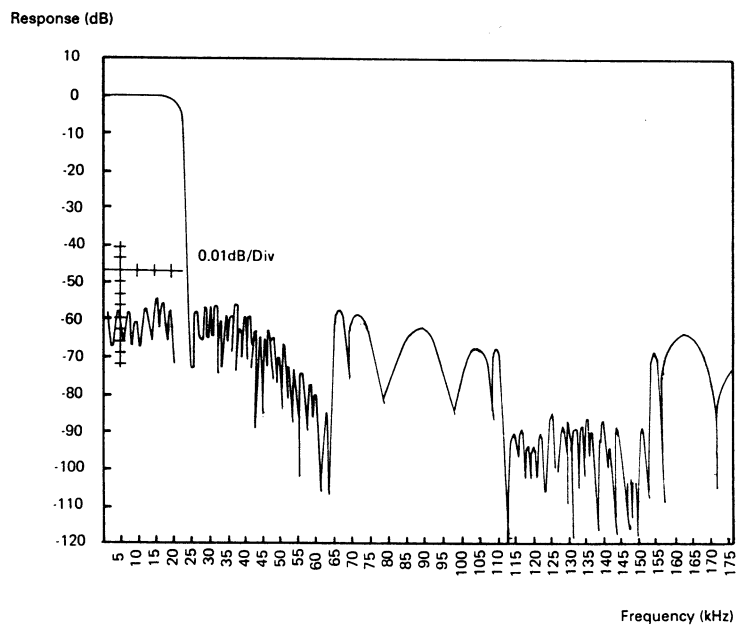
MODE1	MODE3	Master clock (XIN)	CKOUT
H	H	384fs	384fs
L	H	192fs	192fs
H	L	392fs	196fs
L	L	196fs	196fs

7-5. Filter characteristics

• Over sampling filter (Frequency : 0 ~ 176.4kHz)

Characteristics item	Performance
Pass band	0 ~ 20kHz
Attenuation band	24.1kHz or more
Ripple	Within −0.046 ± 0.023dB
Attenuation characteristics	40dBm or more

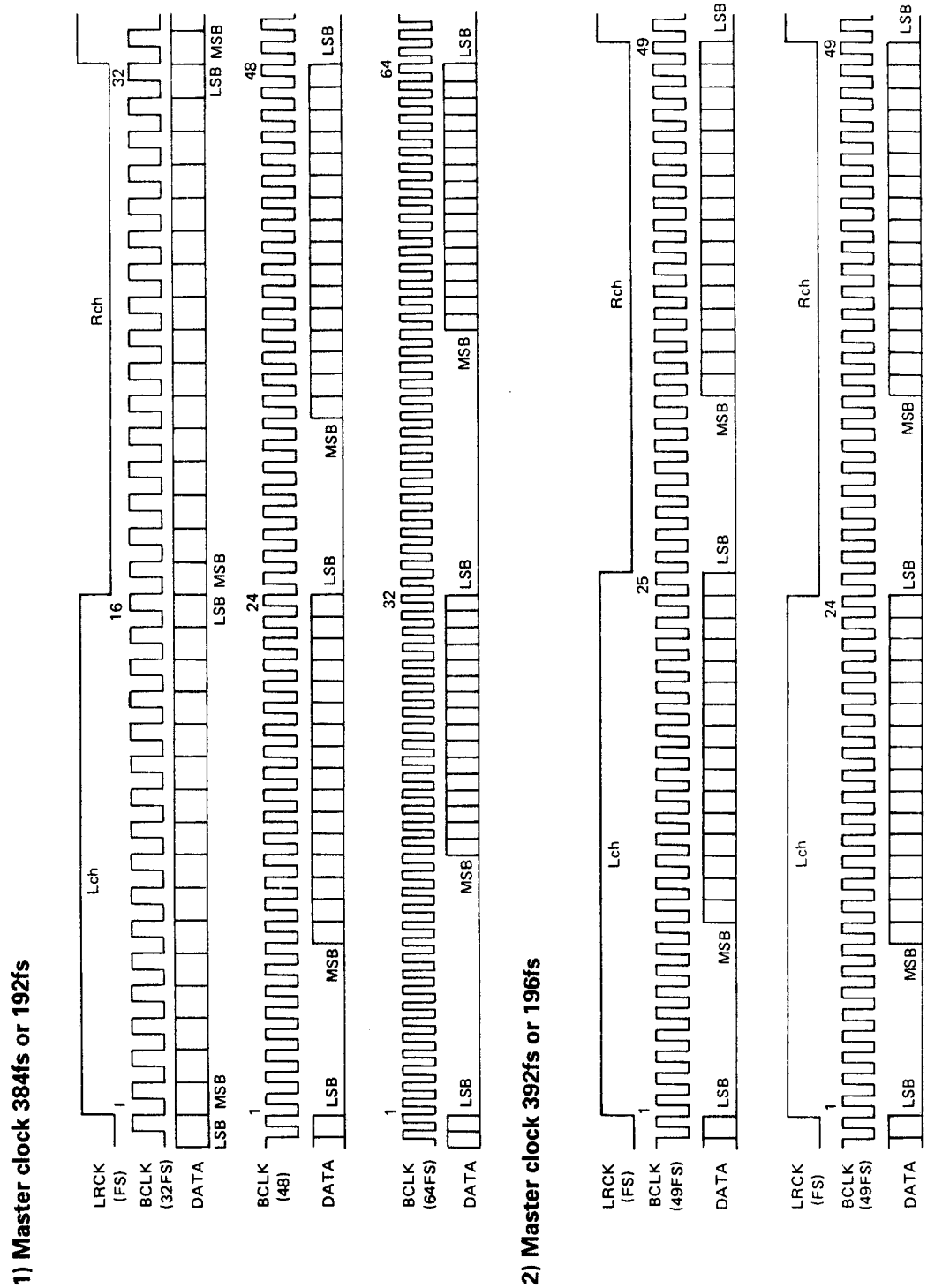
• Sampling frequency (fs = 44.1kHz)



CIRCUIT DESCRIPTION

7-6. Timing chart

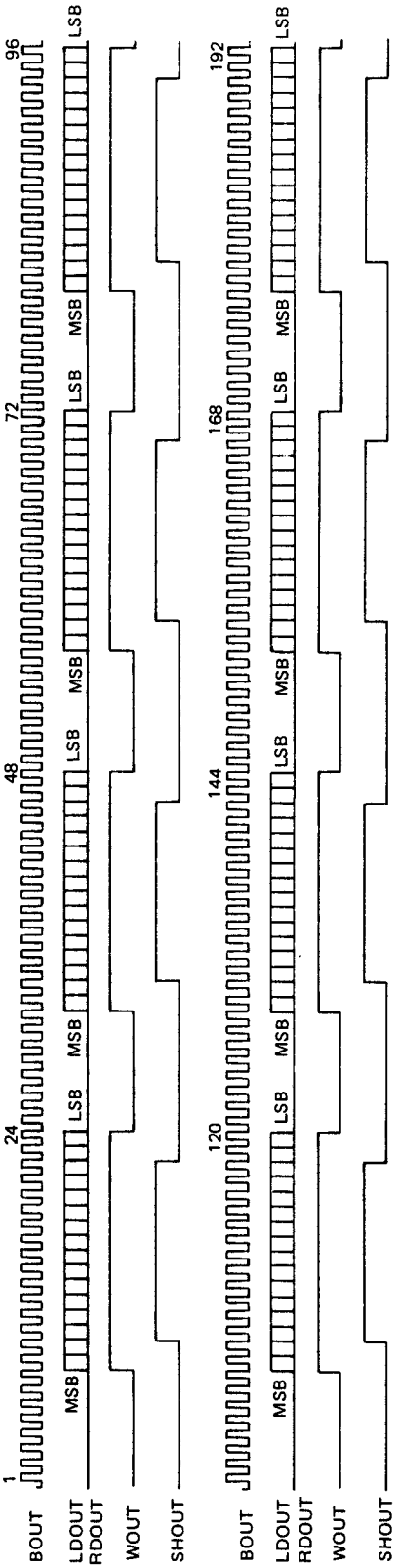
- **Input timing chart**



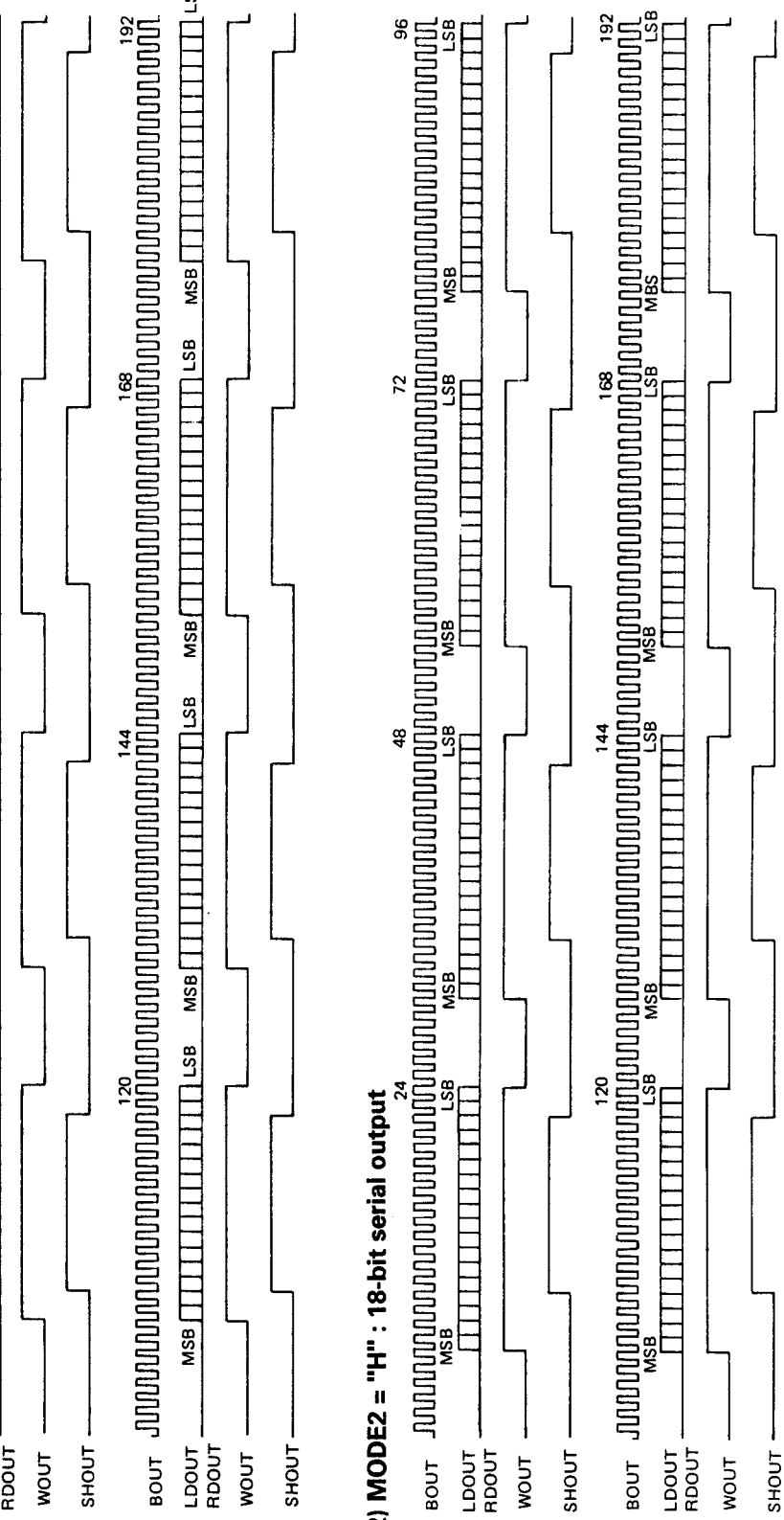
CIRCUIT DESCRIPTION

• **Output timing chart (Master clock = 384fs or 192fs : MODE1 = "H" or "L", MODE3 = "H")**

1) MODE2 = "L" : 16-bit serial output

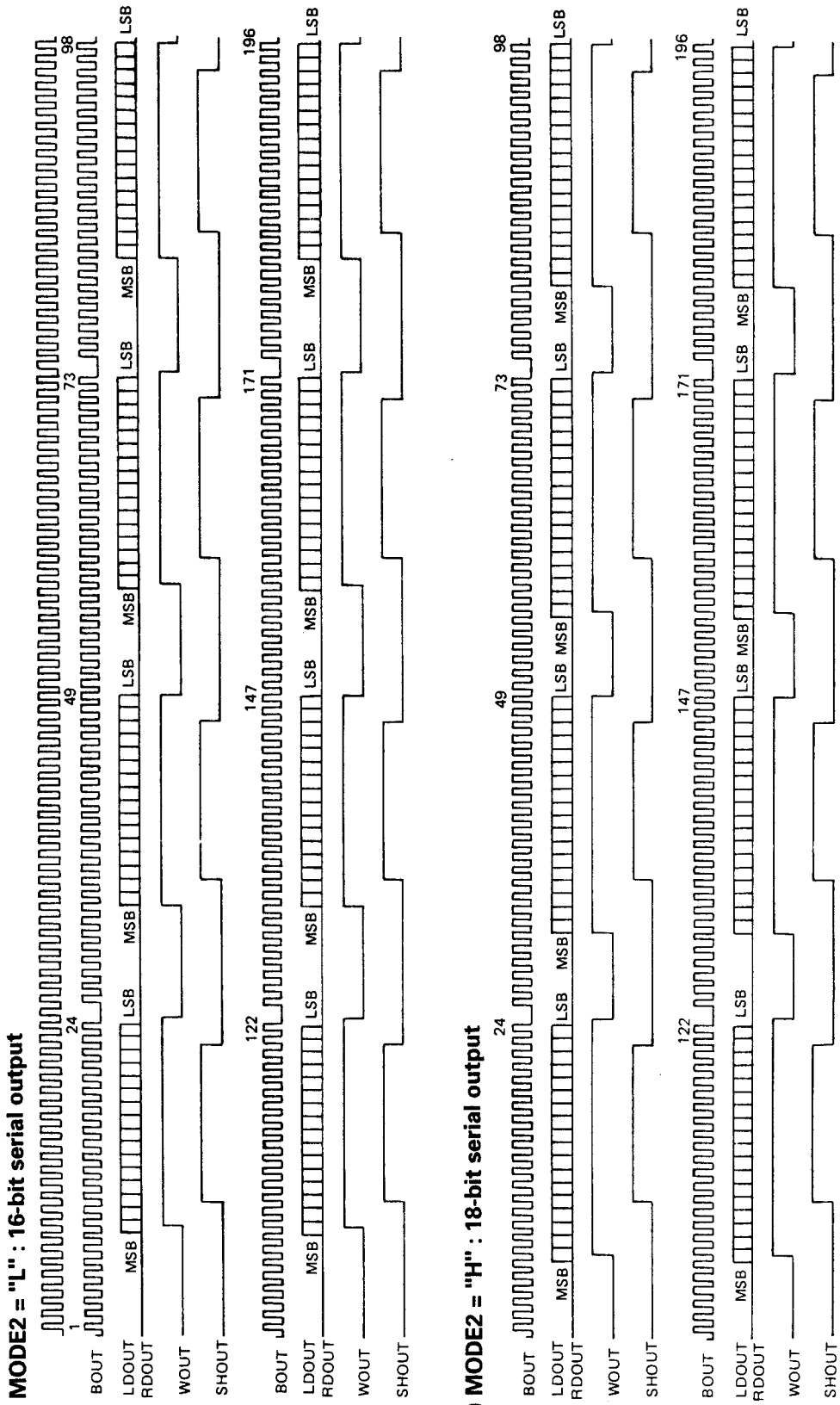


2) MODE2 = "H" : 18-bit serial output



CIRCUIT DESCRIPTION

• **Output timing chart (Master clock = 392fs or 196 fs : MODE1 = "H" or "L", MODE3 = "L")**



MECHANISM OPERATION DESCRIPTION

Mechanism Operation Description

Fig. 1 shows the relationship of mechanisms in the STOP mode. The OPEN/CLOSE operation of the mechanism and the UP/DOWN operation of the pickup chassis when loading the disc are description below.

Note 1 : The black arrow (OPEN) and the white arrow (CLOSE) in the operation description have the following meanings :

Black arrow (OPEN) : Tray opening direction (Tray OPEN)

White arrow (CLOSE) : Tray closing direction (Tray CLOSE)

Note 2 : Figures in the bracket ( ) in the operation description or accompanied with the part name in the diagram show the reference numbers in the Exploded View.

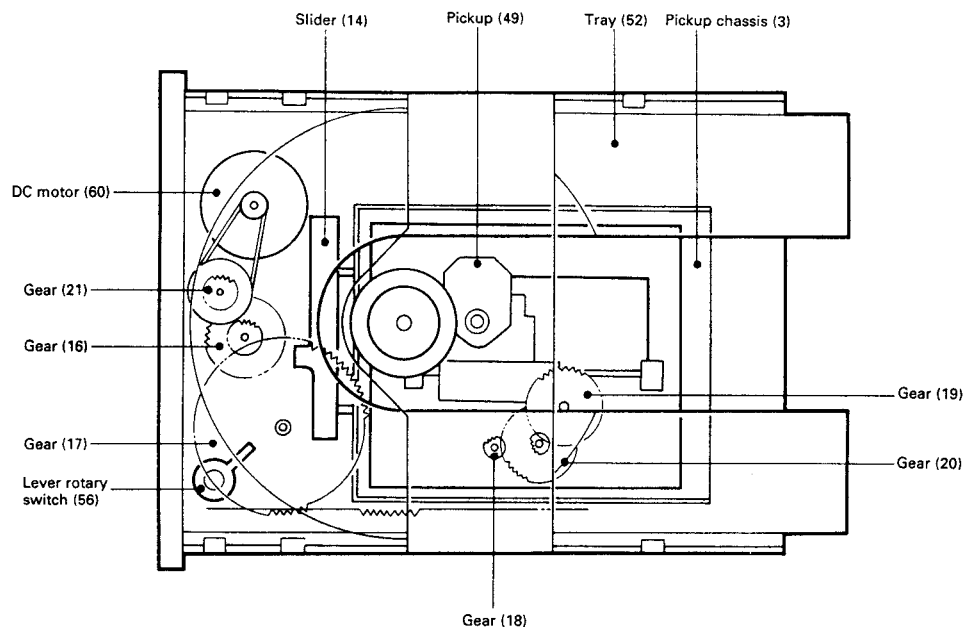


Fig. 1 Tray closed status

MECHANISM OPERATION DESCRIPTION

1. Tray OPEN/CLOSE Operation

By the rotation of the motor (❶), the gear (❷) is rotated and the tray starts OPEN/CLOSE (❸) operation. The OPEN/CLOSE operation stops when the protrusion of the gear comes in contact with the detection switch (❹).

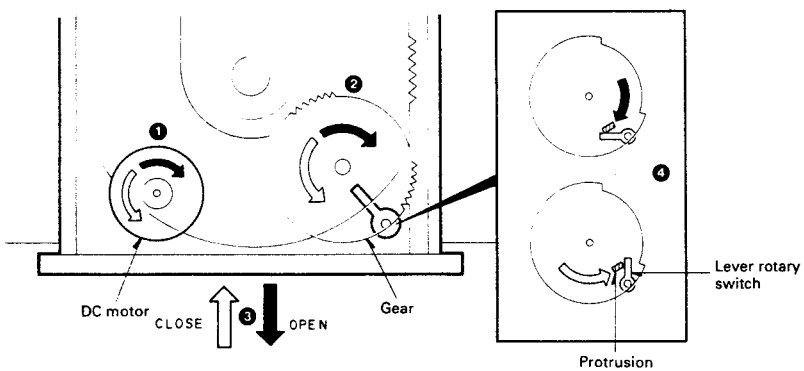


Fig. 2 Tray OPEN/CLOSE operation

2. Pickup Chassis UP/DOWN Movement

Accompanied with the OPEN/CLOSE operation, the lever is shifted (❷) by the rotation of the gear (❶). Along with the grooves in the lever, the pickup chassis moves up and down (❸).

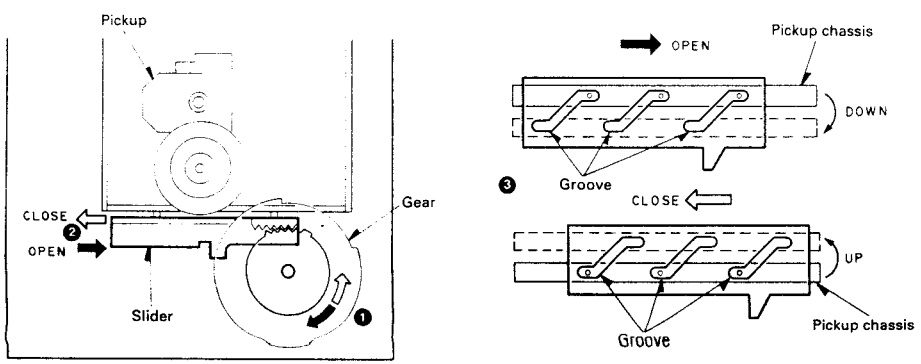


Fig. 3 Pickup chassis UP/DOWN movement

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MECHANISM OPERATION DESCRIPTION

3. Gear Installing Position

When re-installing the gear after removing it, attach the gear at the position (Ⓐ) shown in the condition when the pickup chassis has been lowered.

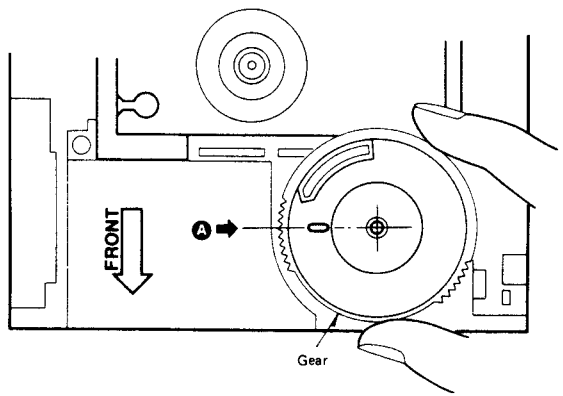


Fig. 4 Gear installing position

ADJUSTMENT

No.	ITEM	INPUT SETTING	OUTPUT SETTING	PLAYER SETTING	ALIGNMENT POINT	ALIGN FOR	FIG
1	LASER POWER	–	Apply the sensor section of the optical power meter on the pickup lens.	Short-circuit pins TEST and turn the power on to enter the test mode. Press the MANUAL S. key(▶▶)to move the pickup outwards. Press the CHECK key to check that the LD emits light. Then, confirm that the display is " 03 ".	–	On the power from 0.1 to 0.3mW, when the diffraction grating is correctly aligned with the RF level of 1.0Vp-p or more and the TE (servo open) level of 1.5Vp-p or more, the pickup is acceptable.	(a)
2	VCO	–	Connect a frequency counter to PLCK (TP9). (X32-1480)	Press the STOP key, and confirm that the display is "01".	L2 (X32-1480)	4.31MHz ±10KHz	(b)
3	TRACKING ERROR BALANCE	Test disc Type 4	Connect an oscilloscope as follows. CH1: RF (X32-1480 CN7 pin 1) CH2: TE (X32-1480 TP4)	Press the REPEAT key to open the tray. Load a disc and close the tray by pushing it by hand. Then, press the CHECK key. Confirm that the display is"03".	TE BALANCE VR2 (X32-1480)	Symmetry between upper and lower patterns, or DC 0±0.05V	(c)
4	FOCUS ERROR BALANCE	Test disc Type 4	Connect an oscilloscope as follows. CH1: RF (X32-1480 CN7 pin 1) CH2: TE (X32-1480 TP4)	Press the PLAY key. Confirm that the display is" 05 ".	FE BALANCE VR1 (X32-1480)	Optimum eyepattern	(d)
5	FOCUS GAIN	Test disc Type 4 Apply signal of 1kHz, 0.5Vrms to CN2 pin 2. (X32-1480)	Connect an LPF to CN2 pin 1, to which connect an oscilloscope or an AC voltmeter. (X32-1480)	Press the PLAY key. Confirm that the display is" 05 ".	FOCUS GAIN VR3 (X32-1480)	50mVrms	(e)
6	TRACKING GAIN	Test disc Type 4 Apply signal of 1.4kHz, 0.5Vrms to CN2 pin 4. (X32-1480)	Connect an LPF to CN2 pin 5, to which connect an oscilloscope or an AC voltmeter. (X32-1480)	Press the PLAY key. Confirm that the display is" 05 " .	TRACKING GAIN VR4 (X32-1480)	50mVrms	(e)

(Note) Type 4 disc: SONY YEDS-18 Test Disc or equivalent.
LPF: Around 47kΩ + 390pF or so.

ABGLEICH

N°	ITEM	REGLAGE D' ENTREE	REGLAGE DE SORTIE	REGLAGE DE LA LECTURE	POINT D' ALIGNEMENT	ALIGNEMENT POUR	FIG
1	PUISSANCE LASER	–	Appliquer la section détecteur du compteur de puissance optique sur la lentille du capteur.	Court-circuiter les broches TEST et fournir l'alimentation pour entrer en mode de test. Presser la touche MANUAL S.(▶▶) pour déplacer le déteteur vers l'extérieur. Presser la touche CHECK pour vérifier que la diode émet de la lumière.S'assurer ensuite que l'affichage est " 03 ".	–	Sur l'alimentation de 0,1 à 0,3mW, quand le réseau de diffraction est correctement aligné avec le niveau RF de 1,0Vc-c ou plus et le niveau TE(servo ouvert)de 1,5vc-c ou plus, le détecteur est acceptable.	(a)
2	VCO	–	Raccorder un compteur de frèquence à PLCK(TP9). (X32-1480)	Presser la touche STOP. S'assurer que l'affichage est " 01 ".	L2 (X32-1480)	4.31MHz ±10KHz	(b)
3	BALANCE D'ERREUR D'ALIGNEMENT	Disque test Type 4	Raccorder un oscilloscope comme suit. CH1: RF (X32-1480 CN7 broche 1) CH2: TE (X32-1480 TP4)	Presser la touche REPEAT pour ouvrir le tiroir. Charger un disque et fermer le tiroir en le poussant à la main. Presser ensuite la touche CHECK. S'assurer que l'affichage est"03".	TE BALANCE VR2 (X32-1480)	Symétrie entre les formes supérieure et inférieure ou DC=0±0,05V	(c)
4	BALANCE D'ERREUR DE MISE AU POINT	Disque test Type 4	Raccorder un oscilloscope comme suit. CH1: RF (X32-1480 CN7 broche 1) CH2: TE (X32-1480 TP4)	Presser la touche PLAY. S'assurer que l'affichage est " 05 ".	FE BALANCE VR1 (X32-1480)	Forme optimum	(d)
5	GAIN DE MISE AU POINT	Disque test Type 4 Appliquer un signal de 1kHz, 0,5Vrms à CN2 broche 2. (X32-1480)	Connecter un filtre passe-bas à CN2 broche 1 et raccorder un oscilloscope ou un voltmètre CA. (X32-1480)	Presser la touche PLAY. S'assurer que l'affichage est " 05 ".	GAIN DE MISE AU POINT VR3 (X32-1480)	50mVrms	(e)
6	GAIN D'ALIGNEMENT	Disque test Type 4 Appliquer un signal de 1,4kHz, 0,5Vrms à CN2 broche 4. (X32-1480)	Connecter un filtre passe-bas à CN2 broche 5 et raccorder un oscilloscope ou un voltmètre CA. (X32-1480)	Presser la touche PLAY. S'assurer que l'affichage est " 05 ".	GAIN DE MISE AU POINT VR4 (X32-1480)	50mVrms	(e)

(Remarque)Disque de type 4:Disque test SONY YEDS-18 ou équivalent.
Filtre passe-bas:environ 47kΩ + 390pF.

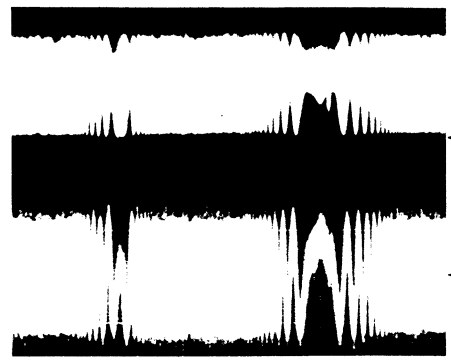
REGLAGE

NR.	GEGENSTAND	EINGANGS-EINSTELLUN	AUSGANGS-EINSTELLUNGE	SPIELER EINSTELLUNG	ABGLEICH-PUNKT	ABGLEICHUNG	ABB.
1	LASERLEISTUNG	–	Das Sensorteil des optischen Leistungmeters auf die Aufnehmerlinse ansetzen.	Die Stifte TEST kurzschließen und die Spannungsversorgung einschalten, um den Testmodus zu aktivieren. Die Taste MANUAL S.(⏩)drücken, um den Abtaster nach außen zu bewegen. Die CHECK-Taste drücken, um zu prüfen, ob die LD Light abgibt. Dann sicherstellen, daß"03"angezeigt wird.	–	Bei der Leistung von 0,1 bis 0,3mW, wenn das beugungsgitter richtig mit dem RF Pegel von 1,0Vs s oder mehr und dem TE-Pegel(Servo offen) von 1,5Vs s oder mehr ausgerichtet ist, ist der Abtaster zuganglich.	(a)
2	VCO	–	Einen Frequenzzahler an Stift PLCK(TP9) anschließen. (X32-1480)	Die STOP-Taste drucken und prüfen, daß" 01 " auf dem Display angezeigt wird.	L2 (X32-1480)	4.31MH2 ±10KHz	(b)
3	SPURHALTEFEHLER-AUSGLEICH	Testdisc Typ 4	Ein Oszilloskop wie folgt anschließen: Kanal 1: RF (X32-1480 CN7 Stift 1) Kanal 2: TE (X32-1480 TP4)	Die REPEAT-Taste drücken, um den Träger zu öffnen. Eine Disc einlegen und den Träger mit der Hand schließen. Dann die CHECK-Taste drücken. Sicherstellen, das " 03 " angezeigt wird.	TE BALANCE VR2 (X32-1480)	Symmetrie zwischen oberen und unteren Mustern oder Gleichstrom DC= 0±0.05V	(c)
4	FOKUS FEHLERAUSGLEICH	Testdisc Typ 4	Ein Oszilloskop wie folgt anschließen: Kanal 1: RF (X32-1480 CN7 Stift 1) Kanal 2: TE (X32-1480 TP4)	Die PLAY-Taste drucken und sicherstellen, daß " 05 " angezeigt wird.	FOKUS FEHLERAUSGLEICH VR1 (X32-1480)	Optimales Augenmuster	(d)
5	FOKUSVERSTÄRKUNG	Testdisc Typ 4 Ein Signal von 1kHz, 2.5Vrms an CN2 Stift 2 anlegen. (X32-1480)	Ein Tiefpaßfilter an CN2 Stift 1 und an dieses ein Oszilloskop oder Wechselstrom-Voltmeter anschließen. (X32-1480)	Die PLAY-Taste drucken und sicherstellen, daß " 05 " angezeigt wird.	FOKUSVERSTÄRKUNG VR3 (X32-1480)	50mVrms	(e)
6	SPURHALTE-VERSTÄRKUNG	Testdisc Typ 4 Ein Signal von 1.5kHz, 0.5Vrms an CN2 Stift 4 anlegen. (X32-1480)	Ein Tiefpaßfilter an CN2 Stift 5 und an dieses ein Oszilloskop oder Wechselstrom-Voltmeter anschließen. (X32-1480)	Die PLAY-Taste drucken und sicherstellen, daß " 05 " angezeigt wird.	SPURHALTE-VERSTÄRKUNG VR4 (X32-1480)	50mVrms	(f)

(Hinweis: Typ 4 Disc: SONY YEDS 18 Testdisc oder Äquivalent.
Tiefpaßfilter: ca. 47k - 390pF oder ähnlich.)

ADJUSTMENT / REGRAGE / ABGLEICH

DIFFRACTION GRID ADJUSTMENT/REGLAGE DU RESEAU DE DIFFRACTION/BEUGUNGSGITTER-EINSTELLUNG

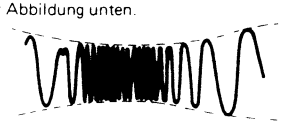


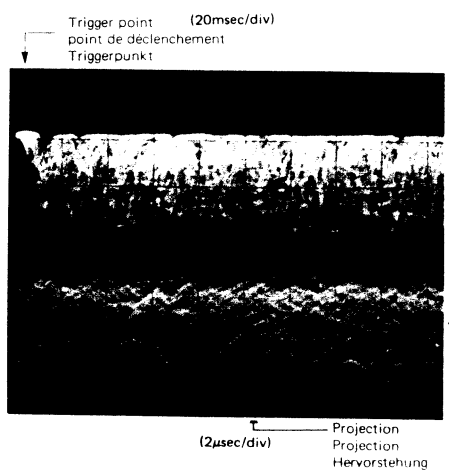
(Photo. 1)
(Photo. 1)
(Foto. 1)

- RF signal and T.Error signal after diffraction grating adjustment.
- Signal RF et signal T.Error après ajustement de réseau de diffraction.
- RF-Signal und T.Error-Signal nach Diffraktions-gitter-Einstellung.

(Photo. 2)
(Photo. 2)
(Foto. 2)

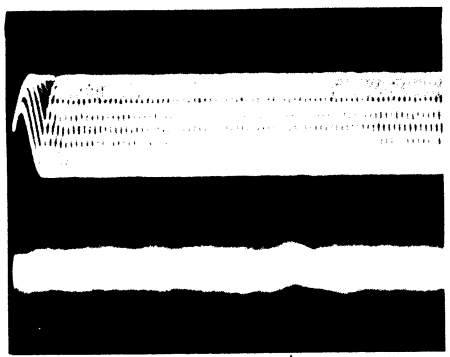
- RF signal and T.Error signal when there is small diffraction grating position error.
- The T.Error signal level is small, and the envelope is as shown in the diagram below.
- Signal RF et signal T.Error quand il y a une petite erreur de position du réseau de diffraction.
- Le niveau de signal T.Error est petit et l'envelope est telle qu'indiquée dans le diagramme ci-dessous.
- RF-Signal und T.Error-Signal bei kleinem Diffraktions-gitter-Positionierungsfehler.
- Der T.Error-Signalpegel ist klein, und die Hüll-kurve ist wie in der Abbildung unten.





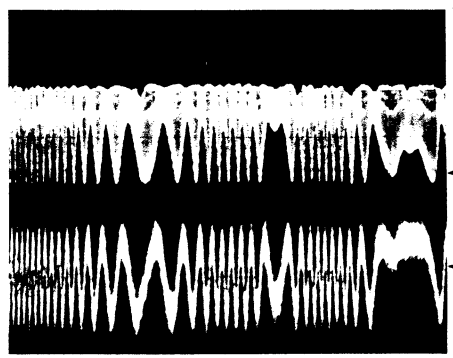
(Photo. 3)
(Photo. 3)
(Foto. 3)

- RF signal and T.Error signal in test mode (with focusing ON).
- When the sub-beam traces the same bit series as the main beam during diffraction grating adjustment, bringing the RF trigger point to the position shown in the Photo causes a "projection" to be observies in the T.Error waveform.
- Le signal RF et le signal T.Error en mode de test (avec la mise au point sur ON).
- Quand un faisceau auxiliaire tracela même série de bits que le faisceau principal pendant l'ajustement de réseau de diffraction, l'apport du point de déclenchement RF à la position indiquée dans la photo provoque une "projection" qui s'observe dans la forme d'onde d' T.Error.
- RF-Signal und T.Error-Signal im Testmodus (bei eingeschalteter Fokussierung).
- Wenn der Nebenstrahl die gleiche Bitreihe wie der Hauptstrahl während der Diffraktionsgitter-Einstellung verfolgt und den RF-Triggerpunkt auf die im Foto gezeigte Position bringt, wird eine "Hervorstehung" verursacht, die in der T.Error-Wellenform beobachtet werden kann.



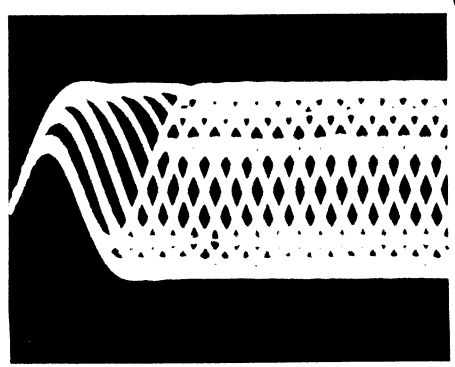
(Photo. 4)
(Photo. 4)
(Foto. 4)

- RF signal and E.Spot signal in test mode (PLAY).
- If the diffraction grating has been adjusted properly, the influence of triggering is observed on the E.Spot waveform of approx. 12μs after RF signal, in the form of a projection.
- Signal RF et signal E.Spot en mode de test (PLAY).
- Si le réseau de diffraction a été ajusté correctement, l'influence du déclenchement s'observe sur la forme d'onde E.Spot d'environ 12μs après le signal RF, sous la forme d'une projection.
- RF-Signal und E.Spot-Signal im Testmodus (PLAY).
- Wenn das Diffraktionsgitter richtig eingestellt wurde, wird der Einfluß des Triggers in der E.Spot-Wellenform etwa 12μs nach dem RF-Signal in der Form einer Hervorstehung beobachtet.



(Photo. 5)
(Photo. 5)
(Foto. 5)

- RF signal and T.Error signal; in test mode (Focusing ON). (Disc type 4)
- Adjust T.Error so that the waveform is symmetrical above and below 0V. (VR2 of X32-1480)
- Signal RF et signal T.Error, en mode test (mise au point ON). (Disque de type 4)
- Ajuster T.Error pour que la forme d'onde soit symétrique en-dessus et au-dessous de 0V. (VR2 de X32-1480)
- RF-Signal und T.Error-Signal; im Testmodus (Fokussierung eingeschaltet). (Disc-Typ 4)
- T.Error so einstellen, daß die Wellenform über und unter 0V symmetrisch ist. (VR2 von X32-1480)



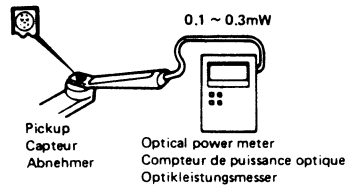
(Photo. 6)
(Photo. 6)
(Foto. 6)

- RF signal in test mode (PLAY).
- Perform the tangential and focusing offset adjustments so that each of the center cross points are focused into one point on the display. The crossing points above and below the center shall also be displayed clearly.
- Signal RF en mode de test (PLAY).
- Effectuer les ajustements d'offset tangentiel et de mise au point pour que chacun des points de croisement central soit mis au point sur un point de l'affichage. Les points de croisement au-dessus et en-dessous du centre doivent aussi être affichés clairement.
- RF-Signal im Testmodus (PLAY).
- Die Tangential- und Fokusversatz-Einstellungen so durchführen, daß jeder der mittleren Kreuzungspunkte in einem Punkt auf dem Display fokussiert wird. Auch die Kreuzungspunkte über und unter der Mitte müssen klar angezeigt werden.

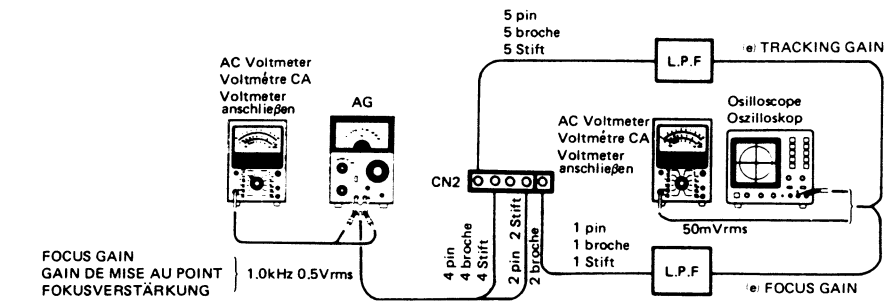
DP-730

ADJUSTMENT / REGRAGE / ABGLEICH

(a) Laser Power



(e) Focus Gain, Tracking Gain



DP-730

VOLTAGE TABLE

(X32-)

IC1

1~3	0V
5	4.8V
6	-5.0V
7~13	0V
15	-1.1V
16	1.2V
17	-5.0V
18~20	0V
21	-5.0V
22	0V
23	-3.6V
24,25	0V
26	0.6V
27	4.3V
28	0V
29,30	5.0V

IC2

1~6	0V
7	4.9V
8~10	5.0V
10	4.9V
11~13	0V
14	-4.4V
15	5.0V
16	0V
17	-4.5V
19	0V
20	-0.2V
21	-0.7V
22	0V
23	0.6V
24,25	0V
26	5.0V
27	0.6V
28~30	0V

IC3

1~4	0V
5	4.3V
6	0.6V
8,9	2.5V
10	0V
11	2.5V
12	0V
13~15	5.0V
16	4.9V
17	1.6V
18	0V
19	5.0V
20	0V
23,24	0V
25	2.5V
26	0V
27	2.7V
28	0V
29~31	0.7V
32	2.8V
33	5.0V
34,35	2.8V
36	2.3V
37	4.5V
38~45	2.5V
46	2.4V
47~49	2.5V
50	2.2V
51	1.6V
52	0V
54	2.5V
55,56	0V
57,58	5.0V
59	0V

IC4

1~4	2.5V
5	2.4V
6~8	2.5V
9	2.3V
10	2.8V
11	0.7V
12	0V
13,14	0.7V
15,16	2.8V
17	4.5V
18	2.2V
19	2.5V
20	2.2V
21~23	2.5V
24	5.0V

IC5

1	0V
2,3	2.6V
4	-10.2V
5,6	0V
7	-0.6V
8	10.2V

IC6

1	-8.7V
2	5.0V
3	4.6V
4	-10.2V
5,6	0V
7	0.5V
8	10.2V

IC7

1~4	-11.2V
5	0V
6	2.6V
7~12	0V
15~17	5.0V
18	0V
19	5.0V
20~24	0V
25~28	5.0V
30	2.6V
32,33	0V
35~38	0V
39	5.0V
40~48	-24.9V
54	-14.6V
55	-8.1V
56	-28.2V
57	-5.0V
58	-21.6V
59	-17.6V
60	-14.5V
62,63	-20.8V
64	5.0V

IC8

1	2.3V
2	2.4V
3	5.0V
4	2.5V
5	2.6V
6	0V
7	2.7V
8,9	0V
11,12	0V
13	5.0V
14	3.6V
15	2.5V
16	5.0V

IC9,10

1	-5.9V
2	0V
3	5.0V
5	2.5V
6	3.6V
7	0V
8	-5.0V
9~13	0V
16	5.9V

IC11,12

1~3	0V
4	-10.2V
5~7	0V
8	10.2V

IC13

1	-1.5V
2,3	0V
4	-10.2V
5,6	5.9V
7	1.3V
8	10.2V

IC14

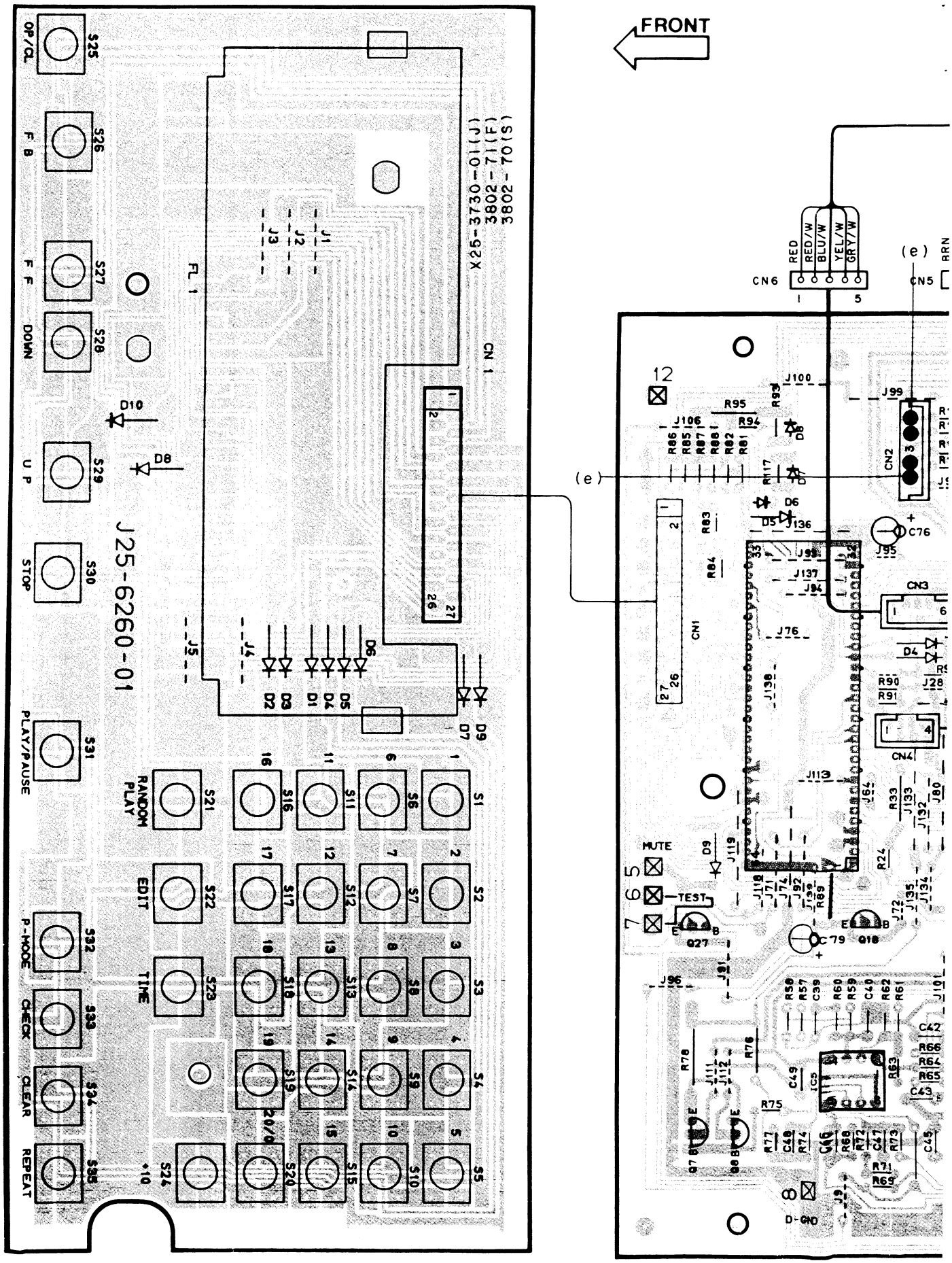
1	0.1V
2,3	0V
4	-10.2V
5,6	0V
7	-0.1V
8	10.2V

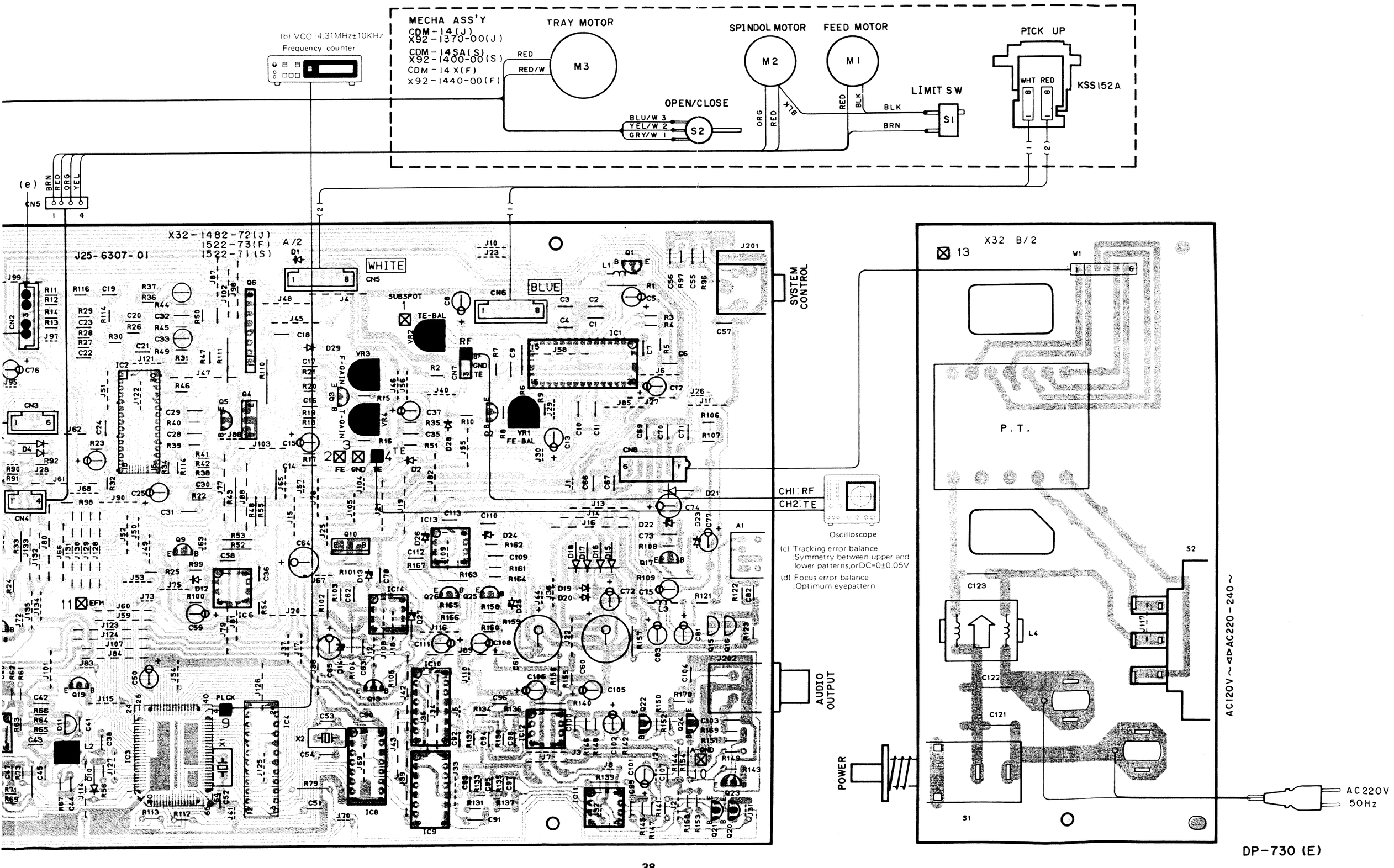
Q6

1	10.2V
2	0.5V
3,4	0.6V
5	-10.2V
6~8	0V

	B	C	E
Q1	4.8V	0.6V	5.0V
Q2	0.6V	0V	0V
Q3	0.6V	1.4V	0V
Q4	-0.7V	10.2V	0V
Q5	-0.7V	0V	-10.2V
Q7	-0.6V	10.2V	0V
Q8	-0.6V	-10.2V	0V
Q9	-7.2V	4.9V	0V
Q10	5.6V	10.2V	5.0V
Q13	-5.7V	-10.2V	-5.0V
Q17	-28.8V	-39.6V	-28.2V
Q18	0V	5.0V	5.0V
Q19	5.0V	-10.2V	5.0V
Q20	-10.2V	4.3V	-10.2V
Q21~24	0.7V	0V	0V
Q25	9.6V	5.9V	10.2V
Q26	-9.6V	-5.9V	-10.2V
Q27	0V	5.0V	5.0V

PC BOARD (COMPONENT SIDE VIEW)





(c) Tracking error balance
Symmetry between upper and lower patterns, or DC=0±0.05V

(d) Focus error balance
:Optimum eyepattern

DP-730 (E)

Refer to the schematic diagram for the values of resistors and capacit

(X32-1842-72)

(CDM-14/14SA/14X)

IC1	: CXA1081S
IC2	: CXA1244S
IC3	: CXD1135QZ
IC4	: LC3518BSL-15 or HM6116ASP-15 or CXK5816SP-15L
IC5,6,13,14	: NJM4558D
IC7	: μPD75212ACW-130
IC8	: PD0050
IC9,10	: PCM56P-L-1
IC11,12	: NJM4565D
Q1,5,8,13	: 2SA1534A
Q2,3	: 2SC945(A)(Q,P) or 2SC1740S(Q,R)
Q4,10	: 2SD1944
Q6	: STA341M
Q7	: 2SC3940A
Q9,27	: DTC124ES
Q17,25	: 2SA954(L,K)
Q18,19	: DTA124ES
Q20	: DTC124ES
Q21～24	: 2SC2878(B)
Q26	: 2SC2003(L,K)
D1～10,12,19,20,28,29	: HSS104 or 1SS133
D11	: 1SV147
D13,23,27	: HZS5.6N(B2) or RD5.6ES(B2)
D14,24	: HZS5.1N(B2) or RD5.1ES(B2)
D15～18,21	: S5566B
D22	: HZS30N(B) or RD30ES(B)
D25,26	: HZS8.2N(B2) or RD8.2ES(B2)

2SA1534A
2SA733(A)
2SA954
2SC2003

2SC2878
2SC3940A
2SC945(A)

DTC124ES

DTA124ES
2SA933S
2SC1740S

2SD1944

NJM4558D

PCM56P-L-1

35D

STA341M

2SK246

LC3518BSL-15

CXA1081S
CXA1244S

CXK5816SP

JAPAN MADE	SINGAPORE MADE	FRANCE MADE
X32-1482-72(E,T,X)	X32-1522-71(E,T)	X32-1522-73(E,T)
0-22(M)		
X25-3730-01(E,T,X,M)	X25-3802-70(E,T)	X25-3802-71(E,T)

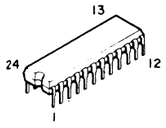
Ref. No.	DIO
X25-3730-01 (JAPAN MADE)	YES
X25-3802-70 (SINGAPORE MADE)	NO
X25-3802-71 (FRANCE MADE)	NO

D1~9 : HSS104 or ISS133
*DIO : HSS104 or ISS133

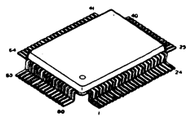
(X25-3730-01)

SIGNAL LINE
GND LINE
+B LINE
-B LINE

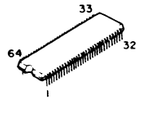
CXK5816SP-15L



CXD1135QZ



UPD75212ACW-130



- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être measurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen instrumenten oder Geräten u.U. geringfügig.

CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

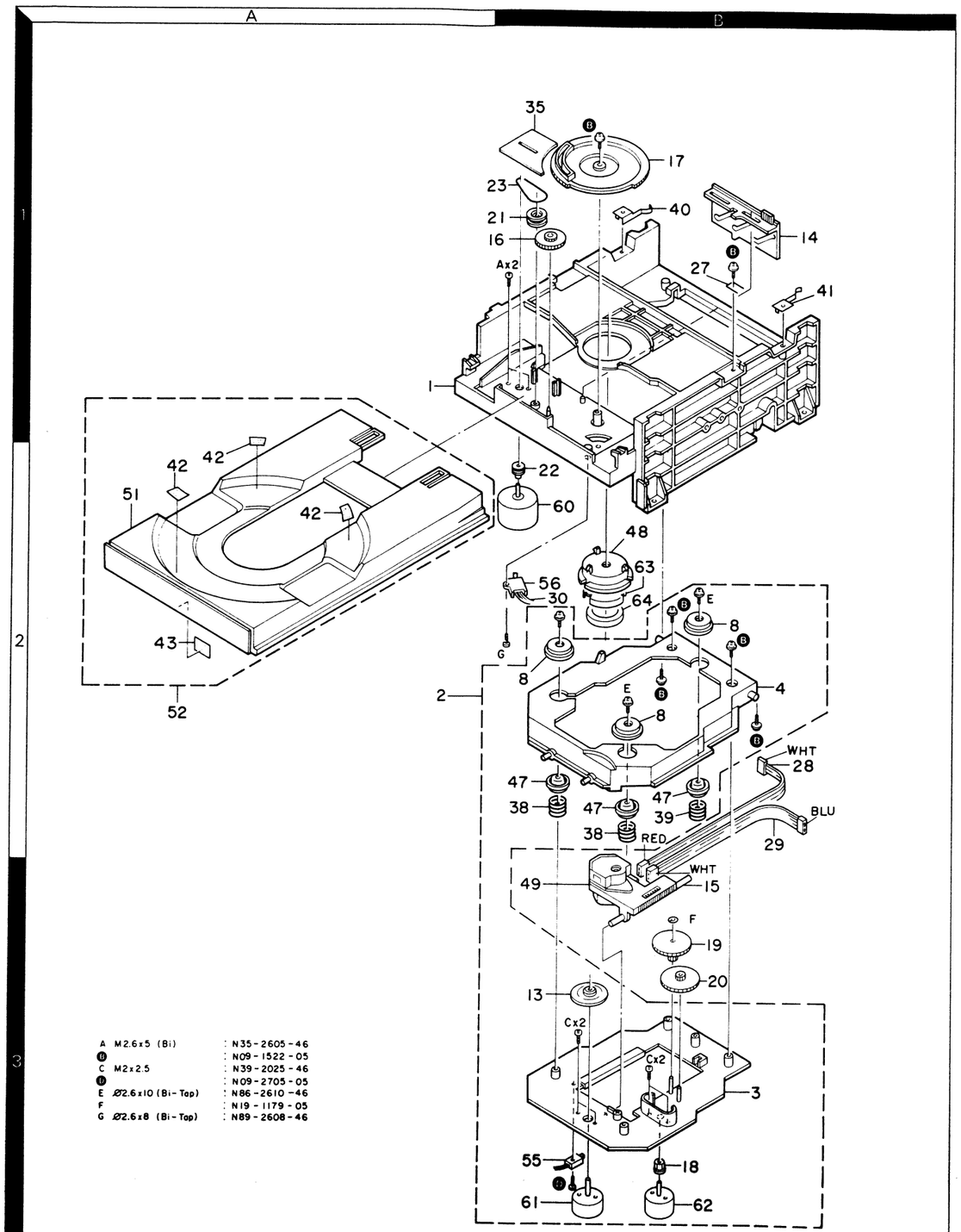
DP-730 (E)J

Y22-1800-22

DP-730

KENWOOD

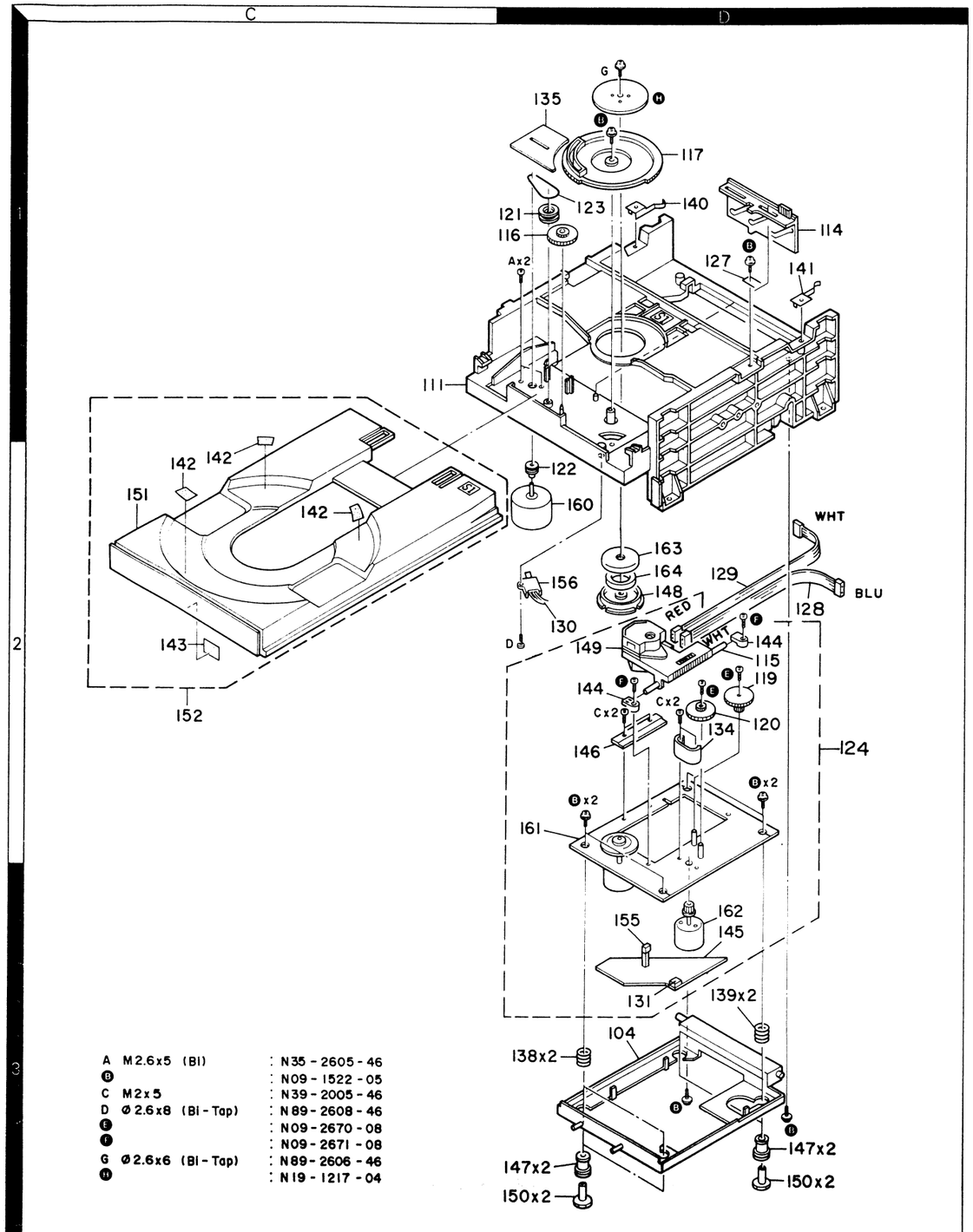
EXPLODED VIEW (MECHANISM) : JAPAN MADE



A	M2.6x5 (Bi)	: N35-2605-46
B		: N09-1522-05
C	M2x2.5	: N39-2025-46
D		: N09-2705-05
E	Ø2.6x10 (Bi-Tap)	: N86-2610-46
F		: N19-1179-05
G	Ø2.6x8 (Bi-Tap)	: N89-2608-46

Parts with the exploded numbers larger than 700 are not supplied.

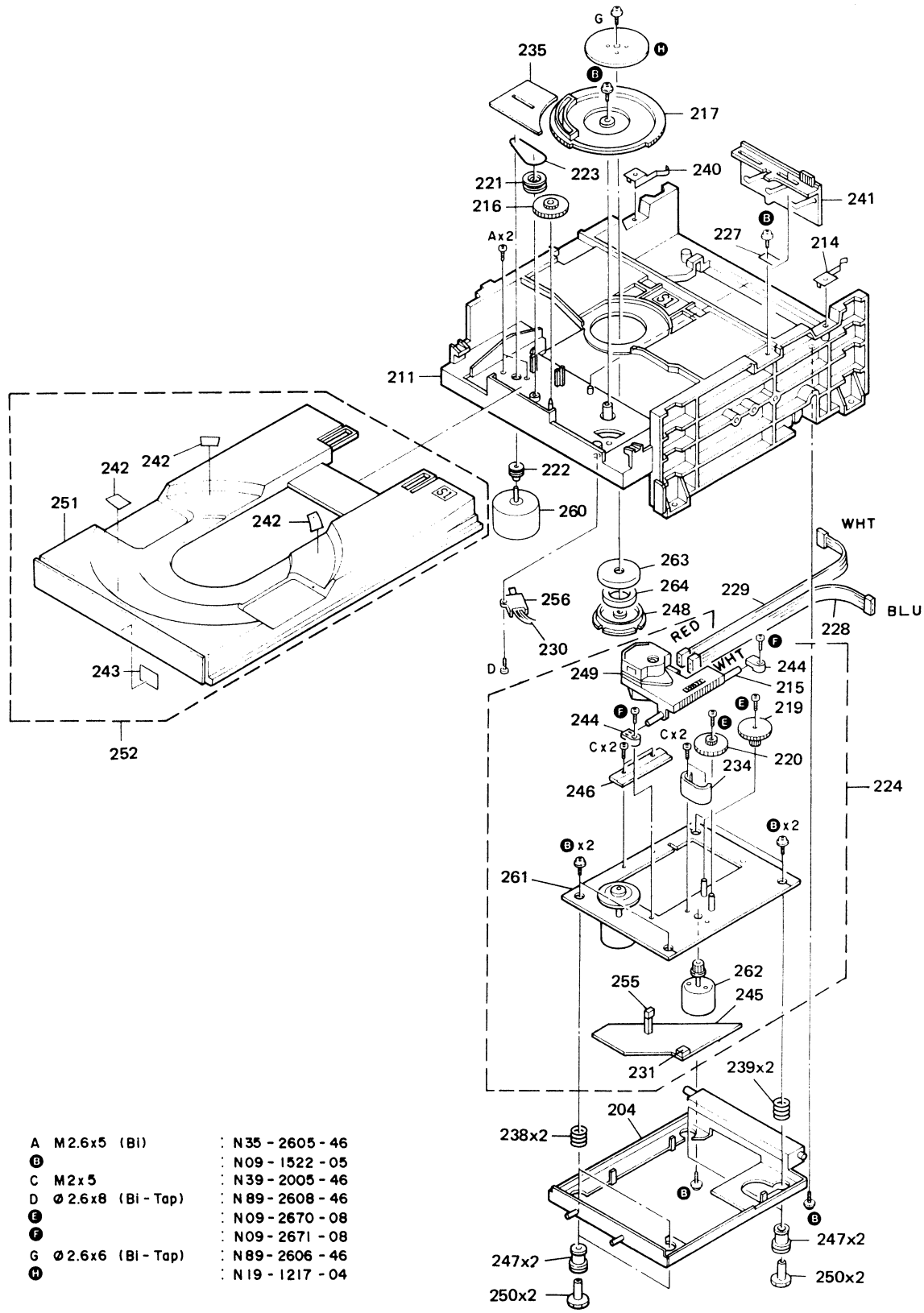
EXPLODED VIEW (MECHANISM) : SINGAPORE MADE



A	M2.6x5 (Bi)	: N35-2605-46
B		: N09-1522-05
C	M2x5	: N39-2005-46
D	Ø2.6x8 (Bi-Tap)	: N89-2608-46
E		: N09-2670-08
F		: N09-2671-08
G	Ø2.6x6 (Bi-Tap)	: N89-2606-46
H		: N19-1217-04

Parts with the exploded numbers larger than 700 are not supplied.

EXPLODED VIEW (MECHANISM) : FRANCE MADE



A	M2.6x5 (Bi)	:	N35 - 2605 - 46
B		:	N09 - 1522 - 05
C	M2x5	:	N39 - 2005 - 46
D	Ø2.6x8 (Bi - Tap)	:	N89 - 2608 - 46
E		:	N09 - 2670 - 08
F		:	N09 - 2671 - 08
G	Ø2.6x6 (Bi - Tap)	:	N89 - 2606 - 46
H		:	N19 - 1217 - 04

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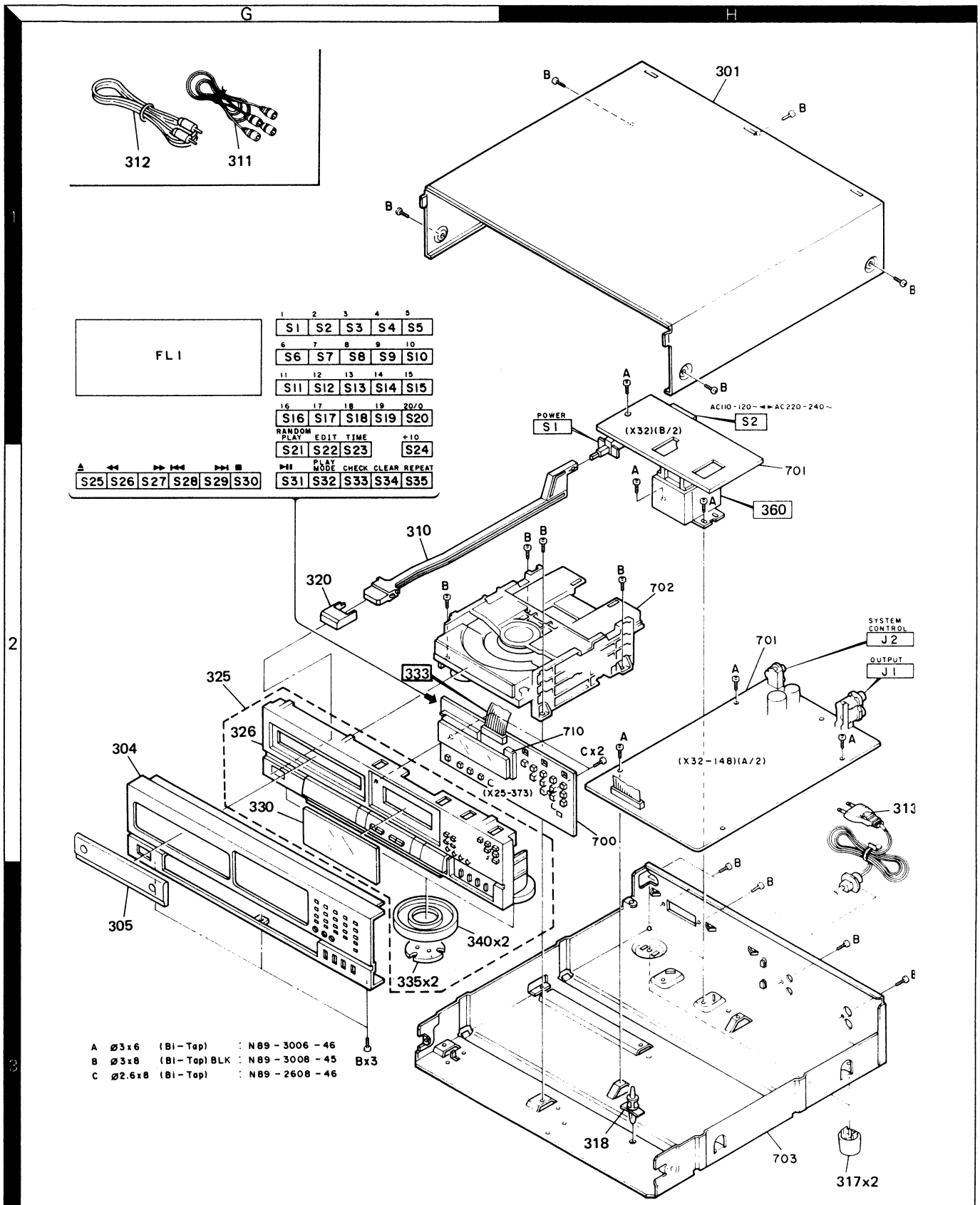
EXPLODED VIEW (UNIT)



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DP-730

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
			DP-730			
301	1H		A01-1814-01	METALLIC CABINET		
304	2G	*	A20-5907-02	PANEL		
305	3G		A29-0150-03	PANEL(TRAY)		
-			B46-0096-13	WARRANTY CARD	X	
-			B46-0122-13	WARRANTY CARD	E	
-			B46-0143-03	WARRANTY CARD	T	
-			B50-9790-00	INSTRUCTION MANUAL(ENGLISH)		
-			B50-9791-00	INSTRUCTION MANUAL(FRENCH)	ME	
-		*	B50-9792-00	INSTRUCTION MANUAL(G/D/I)	E	
-			B50-9793-00	INSTRUCTION MANUAL(SPANISH)	M	
310	2G		D21-1546-03	EXTENSION SHAFT		
311	1G		E30-0615-05	AUDIO CORD		
312	1G		E30-1392-05	CORD WITH PLUG		
⚠ 313	2H		E30-2588-05	AC POWER CORD	X	
⚠ 313	2H		E30-2589-05	AC POWER CORD	T	
⚠ 313	2H		E30-2590-05	AC POWER CORD	ME	
-		*	H01-8602-04	ITEM CARTON CASE		
-			H10-3864-02	POLYSTYRENE FOAMED FIXTURE		
-			H10-3865-02	POLYSTYRENE FOAMED FIXTURE		
-			H20-0554-04	PROTECTION COVER	M	
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
-			H25-0361-04	PROTECTION BAG	XTE	
317	3H		J02-1013-05	FOOT		
318	3H		J19-0514-05	UNIT HOLDER		
320	2G		K29-3765-04	KNOB(POWER)		
A			N89-3006-46	BINDING HEAD TAPTITE SCREW		
B			N89-3008-45	BINDING HEAD TAPTITE SCREW		
			OPERATION UNIT (X25-3730-01)			
325	2G	*	A22-1138-03	SUB PANEL ASSY		
326	2G		A22-1112-01	SUB PANEL		
330	2G		B03-2572-04	DRESSING PLATE		
333	2G		E31-4289-05	WIRING HARNESS		
CN1			E10-2704-05	FLAT CABLE CONNECTOR		
335	3G		G11-1391-04	SOFT TAPE		
340	3G		J69-0069-05	RING		
S1 -35			S40-1064-05	PUSH SWITCH		
D1 -9			HSS104	DIODE		
D1 -9			1SS133	DIODE		
FL1			FIP10AM19	FLUORESCENT INDICATOR TUBE		
			CONTROL UNIT (X32-1482-72)			
C1 -4			CC45FSL1H150J	CERAMIC 15PF J		
C5			CE04KW1A101M	ELECTRO 100UF 10WV		
C6			CC45FSL1H150J	CERAMIC 15PF J		
C7			CF92FV1H472J	MF 4700PF J		
C8			CE04KW1A101M	ELECTRO 100UF 10WV		

E: Scandinavia & Europe K: USA P: Canada
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C9			CF92FV1H333J	MF 0.033UF J		
C10			CF92FV1H102J	MF 1000PF J		
C11			CF92FV1H103J	MF 0.010UF J		
C12 ,13			CE04KW0J221M	ELECTRO 220UF 6.3WV		
C14			CF92FV1H473J	MF 0.047UF J		
C15			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C16			CF92FV1H682J	MF 6800PF J		
C17			CF92FV1H103J	MF 0.010UF J		
C18			CF92FV1H823J	MF 0.082UF J		
C19			CF92FV1H104J	MF 0.10UF J		
C20			CF92FV1H473J	MF 0.047UF J		
C21			CF92FV1H103J	MF 0.010UF J		
C22			CK45FB1H222K	CERAMIC 2200PF K		
C23			C90-1331-05	NP-ELEC 0.47UF 50WV		
C24			CC45FSL1H181J	CERAMIC 180PF J		
C25			CE04KW1C220M	ELECTRO 22UF 16WV		
C28			CK45FB1H102K	CERAMIC 1000PF K		
C29			CF92FV1H154J	MF 0.15UF J		
C30			CF92FV1H184J	MF 0.18UF J		
C31			CK45FB1H222K	CERAMIC 2200PF K		
C32			CK45FF1H103Z	CERAMIC 0.010UF Z		
C33			C90-1332-05	NP-ELEC 10UF 25WV		
C35			CK45FF1H223Z	CERAMIC 0.022UF Z		
C36			CK45FF1H103Z	CERAMIC 0.010UF Z		
C37			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C38			CK45FF1H103Z	CERAMIC 0.010UF Z		
C39			CF92FV1H124J	MF 0.12UF J		
C40			CC45FSL1H101J	CERAMIC 100PF J		
C41 ,42			CK45FB1H222K	CERAMIC 2200PF K		
C43			CC45FUJ1H050C	CERAMIC 5.0PF C		
C44			CC45FUJ1H330J	CERAMIC 33PF J		
C45			CC45FUJ1H221J	CERAMIC 220PF J		
C46 ,47			CF92FV1H103J	MF 0.010UF J		
C48			CF92FV1H332J	MF 3300PF J		
C49			CK45FF1H103Z	CERAMIC 0.010UF Z		
C50			CE04KW1A101M	ELECTRO 100UF 10WV		
C53 ,54			CC45FCH1H470J	CERAMIC 47PF J		
C55 ,56			CK45FB1H102K	CERAMIC 1000PF K		
C57			CK45FF1H223Z	CERAMIC 0.022UF Z		
C58			CK45FF1H103Z	CERAMIC 0.010UF Z		
C59			CE04KW1V100M	ELECTRO 10UF 35WV		
C60 ,61			CE04KW1C222M	ELECTRO 2200UF 16WV		
C62 ,63			CK45FF1H103Z	CERAMIC 0.010UF Z		
C64			CE04KW0J331M	ELECTRO 330UF 6.3WV		
C65			CE04KW1A101M	ELECTRO 100UF 10WV		
C66 ,67			CK45FF1H103Z	CERAMIC 0.010UF Z		
C69 -71			CK45FF1H103Z	CERAMIC 0.010UF Z		
C72			CE04KW1C470M	ELECTRO 47UF 16WV		
C73			CK45FF1H103Z	CERAMIC 0.010UF Z		
C74			CE04KW1H470M	ELECTRO 47UF 50WV		
C75			CE04KW1V100M	ELECTRO 10UF 35WV		
C76 ,77			CE04KW1C220M	ELECTRO 22UF 16WV		
C78			CK45FF1H103Z	CERAMIC 0.010UF Z		
C79			CE04KW1A101M	ELECTRO 100UF 10WV		
C81			CE04KW1A101M	ELECTRO 100UF 10WV		

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DP-730

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C83			CE04KW1A101M	ELECTRO 100UF 10WV		
C90			CK45FF1H103Z	CERAMIC 0.010UF Z		
C91 ,92			CF92FV1H121K	MF 120PF K		
C93 ,94			CF92FV1H512J	MF 5100PF J		
C95 ,96			CF92FV1H682J	MF 6800PF J		
C97 ,98			CF92FV1H102J	MF 1000PF J		
C99 ,100			CF92FV1H393J	MF 0.039UF J		
C101,102			CE04KW1V100M	ELECTRO 10UF 35WV		
C103,104			CF92FV1H331K	MF 330PF K		
C105,106			CE04KW1C470M	ELECTRO 47UF 16WV		
C107			CF92FV1H473J	MF 0.047UF J		
C108			CE04KW1A101M	ELECTRO 100UF 10WV		
C109,110			CK45FF1H103Z	CERAMIC 0.010UF Z		
C111			CE04KW1A101M	ELECTRO 100UF 10WV		
C112,113			CK45FF1H103Z	CERAMIC 0.010UF Z		
⚠ C121-123			C91-0971-05	FILM 0.01UF 250WV		
CN1			E10-2703-05	FLAT CABLE CONNECTOR		
J201	2H		E11-0188-05	MINIATURE PHONE JACK(SYSTEM)		
J202	2H		E13-0244-05	PHONO JACK		
⚠ 360	2H		L01-8832-05	POWER TRANSFORMER	XTE	
⚠ 360	2H		L01-8834-05	POWER TRANSFORMER	M	
L1			L40-1001-17	SMALL FIXED INDUCTOR(10UH,K)		
L2			L32-0355-05	OSCILATING COIL		
⚠ L4			L79-0785-05	LINE FILTER		
X2			L77-1164-05	CRYSTAL RESONATOR		
R43			RS14KB3D4R7J	FL-PROOF RS 4.7 J 2W		
R78			RS14KB3A330J	FL-PROOF RS 33 J 1W		
R110,111			RS14KB3D150J	FL-PROOF RS 15 J 2W		
R118			RS14KB3A330J	FL-PROOF RS 33 J 1W		
VR1 ,2			R12-3128-05	TRIMMING POT.(22K)(FE/TE BAL)		
VR3 ,4			R12-3126-05	TRIMMING POT.(10K)(FE/TE GAIN)		
⚠ S1	1H		S40-1103-05	PUSH SWITCH (POWER)		
⚠ S2	1H		S31-2131-05	SLIDE SWITCH (POWER VOLT)	M	
D1 -10			HSS104	DIODE		
D1 -10			1SS133	DIODE		
D11			1SV147	VARISTOR		
D12			HSS104	DIODE		
D12			1SS133	DIODE		
D13			HZS5.6N(B2)	ZENER DIODE		
D13			RD5.6ES(B2)	ZENER DIODE		
D14			HZS5.1N(B2)	ZENER DIODE		
D14			RD5.1ES(B2)	ZENER DIODE		
D15 -18			S5566B	DIODE		
D19 ,20			HSS104	DIODE		
D19 ,20			1SS133	DIODE		
D21			S5566B	DIODE		
D22			HZS30N(B)	ZENER DIODE		
D22			RD30ES(B)	ZENER DIODE		
D23			HZS5.6N(B2)	ZENER DIODE		
D23			RD5.6ES(B2)	ZENER DIODE		
D24			HZS5.1N(B2)	ZENER DIODE		
D24			RD5.1ES(B2)	ZENER DIODE		

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JAPAN MADE

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D25 ,26			HZS8.2N(B2)	ZENER DIODE		
D25 ,26			RD8.2ES(B2)	ZENER DIODE		
D27			HZS5.6N(B2)	ZENER DIODE		
D27			RD5.6ES(B2)	ZENER DIODE		
D28 ,29			HSS104	DIODE		
D28 ,29			1SS133	DIODE		
IC1			CXA1081S	IC(RF AMP)		
IC2			CXA1244S	IC(SERVO SIGNAL PROCESSOR)		
IC3			CXD1135QZ	IC(DIGITAL SIGNAL PROCESSOR)		
IC4			CXK5816SP-15L	IC		
IC4			HM6116ASP-15	IC		
IC4			LC3518BSL-15	IC		
IC5 ,6			NJM4558D	IC(OP AMP X2)		
IC7			UPD75212ACW-130	IC(MICROPROCESSOR)		
IC8			PD0050	IC		
IC9 ,10			PCM56P-L-1	IC(DA CONVERTER)		
IC11,12			NJM4565D	IC(OP AMP X2)		
IC13,14			NJM4558D	IC(OP AMP X2)		
Q1			2SA1534A	TRANSISTOR		
Q2 ,3			2SC1740S(Q,R)	TRANSISTOR		
Q2 ,3			2SC945(A)(Q,P)	TRANSISTOR		
Q4			2SD1944	TRANSISTOR		
Q5			2SA1534A	TRANSISTOR		
Q6			STA341M	TRANSISTOR		
Q7			2SC3940A	TRANSISTOR		
Q8			2SA1534A	TRANSISTOR		
Q9			DTC124ES	DIGITAL TRANSISTOR		
Q10			2SD1944	TRANSISTOR		
Q11			2SC945(A)(Q,P)	TRANSISTOR		
Q13			2SA1534A	TRANSISTOR		
Q17			2SA954(L,K)	TRANSISTOR		
Q18 ,19			DTA124ES	DIGITAL TRANSISTOR		
Q20			DTC124ES	DIGITAL TRANSISTOR		
Q21 -24			2SC2878(B)	TRANSISTOR		
Q25			2SA954(L,K)	TRANSISTOR		
Q26			2SC2003(L,K)	TRANSISTOR		
Q27			DTC124ES	DIGITAL TRANSISTOR		
MECHANISM ASS'Y (X92-1370-00) : JAPAN MADE						
1	1A	*	A10-1964-01	CHASSIS		
2	2B	*	A11-0620-15	SUB CHASSIS ASSY		
3	3B		A11-0621-08	SUB CHASSIS INJECTION MOLD		
4	2B	*	A11-0623-08	SUB CHASSIS		
8	2B	*	B09-0098-08	CAP		
13	3B	*	D02-0091-08	TURNTABLE PLATTER		
14	1B	*	D10-2324-03	SLIDER		
15	3B	*	D10-2325-04	ROD		
16	1B	*	D13-0807-04	GEAR(INTERMEDIATE)		
17	1B	*	D13-0808-02	GEAR(MAIN)		
18	3B	*	D13-0809-08	GEAR		
19	3B	*	D13-0810-04	GEAR		
20	3B	*	D13-0811-04	GEAR		
21	1B	*	D13-0813-04	GEAR(PULLEY)		
22	2B	*	D15-0296-04	MOTOR PULLEY		

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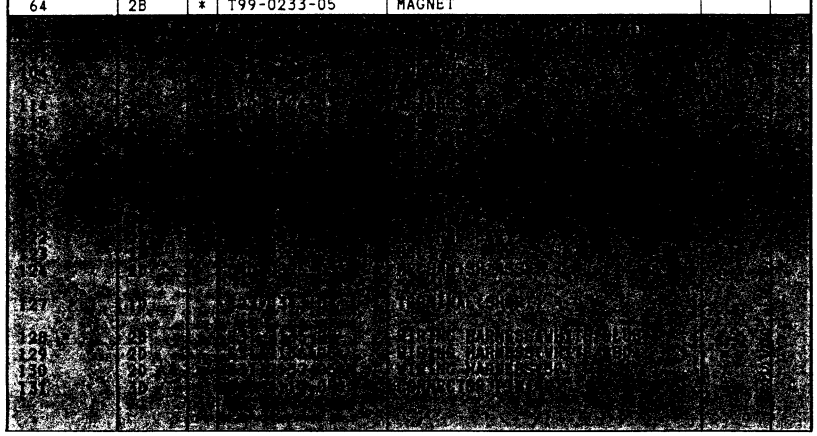
23	1B	*	D16-0282-04	BELT		
27	1B	*	E23-0343-04	TERMINAL		
28	2B	*	E31-7073-05	WIRING HARNESS(WHITE/BLUE)		
29	2B	*	E31-7074-05	WIRING HARNESS(WHITE/RED)		
30	2B	*	E31-7075-05	WIRING HARNESS		
35	1B	*	F19-1005-04	BLIND PLATE		
38	2B	*	G01-2385-08	COMPRESSION SPRING(FRONT)		
39	2B	*	G01-2390-08	COMPRESSION SPRING(REAR)		
40	1B	*	G02-0926-04	FLAT SPRING		
41	1B	*	G02-0927-04	FLAT SPRING		
42	2A		G16-0739-04	SHEET		
43	2A		G16-0744-04	SHEET		
47	2B	*	J02-1033-08	INSULATOR		
48	2B	*	J11-0151-03	CLAMPER		
49	3B		J91-0385-08	PICKUP		
51	2A	*	J99-0065-01	TRAY		
52	2A		J99-0067-03	TRAY ASSY		
-			N88-3008-45	FLAT HEAD SCREW(FOR ROD)		
A			N35-2605-46	BINDING HEAD MACHINE SCREW		
B			N09-1522-05	SET SCREW (3X8)		
C			N39-2025-46	PAN HEAD MACHINE SCREW		
D		*	N09-2705-05	MACHINE SCREW		
E			N89-2610-46	BINDING HEAD TAPTITE SCREW		
F			N19-1179-05	FLAT WASHER		
G			N89-2608-46	BINDING HEAD TAPTITE SCREW		
55	3B	*	S33-1022-05	LEVER SWITCH(S1/LIMIT)		
56	2B	*	S33-2061-05	LEVER SWITCH(S2/OPEN,CLOSE)		
60	2B	*	T42-0530-05	DC MOTOR(M3/TRAY)		
61	3B	*	T42-0531-05	DC MOTOR(M2/SPINDLE)		
62	3B	*	T42-0532-05	DC MOTOR(M1/FEE)		
63	2B	*	T50-1044-04	YOKE		
64	2B	*	T99-0233-05	MAGNET		



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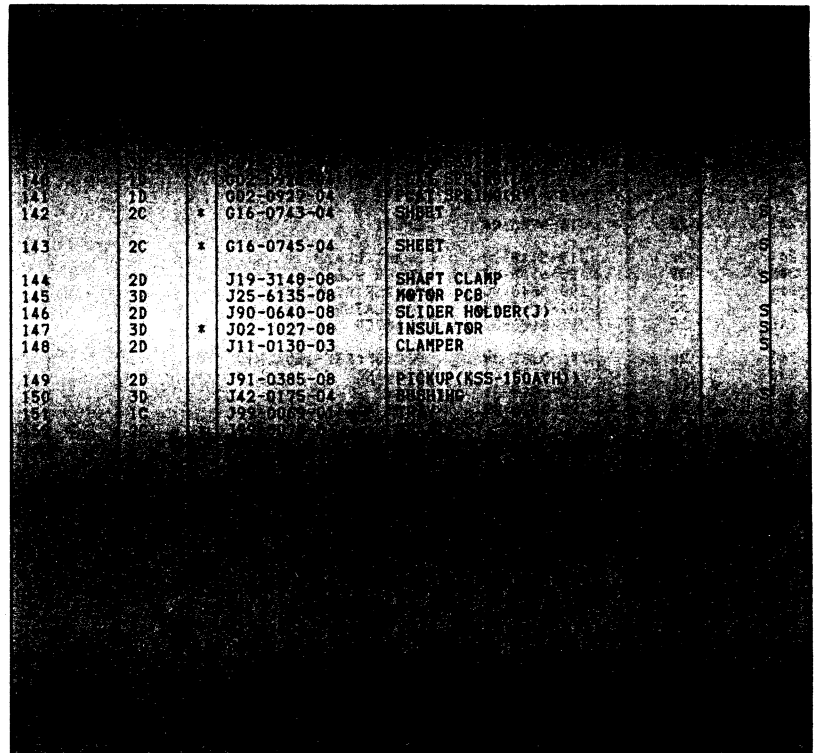

MECHANISM ASS'Y (X92-1440-00) : FRANCE MADE

201	1E	*	A10-2565-01	CHASSIS	F
204	3F	*	A11-0638-02	SUB CHASSIS	F
214	1F		D10-2324-03	SLIDER	
215	2F		D10-2315-08	ROD	
216	1F		D13-0807-04	GEAR(INTERMEDIATE)	
217	1F		D13-0808-02	GEAR(MAIN)	
219	2F		D13-0802-08	GEAR	
220	2F		D13-0803-08	GEAR	
221	1F		D13-0813-04	GEAR(PULLEY)	
222	2F		D15-0296-04	MOTOR PULLEY	
223	1F		D16-0284-03	BELT	
224	2F		D40-0876-05	MECHANISH ASSY	
227	1F		E23-0343-04	TERMINAL	
228	2F		E31-7136-05	WIRING HARNESS(WHITE/RED)	
229	2F		E31-7135-05	WIRING HARNESS(WHITE/BLUE)	
230	2F		E31-7137-05	WIRING HARNESS	
231	3F		E40-4117-08	CONNECTOR PIN(4P)	
234	2F		F07-0554-08	GEAR COVER	

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⚠ indicates safety critical components

FRANCE MADE SINGAPORE MADE JAPAN MADE

PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
23	1B	*	D16-0282-04	BELT		
27	1B	*	E23-0343-04	TERMINAL		
28	2B	*	E31-7073-05	WIRING HARNESS(WHITE/BLUE)		
29	2B	*	E31-7074-05	WIRING HARNESS(WHITE/RED)		
30	2B	*	E31-7075-05	WIRING HARNESS		
35	1B	*	F19-1005-04	BLIND PLATE		
38	2B	*	G01-2385-08	COMPRESSION SPRING(FRONT)		
39	2B	*	G01-2390-08	COMPRESSION SPRING(REAR)		
40	1B	*	G02-0926-04	FLAT SPRING		
41	1B	*	G02-0927-04	FLAT SPRING		
42	2A		G16-0739-04	SHEET		
43	2A		G16-0744-04	SHEET		
47	2B	*	J02-1033-08	INSULATOR		
48	2B	*	J11-0151-03	CLAMPER		
49	3B		J91-0385-08	PICKUP		
51	2A	*	J99-0065-01	TRAY		
52	2A		J99-0067-03	TRAY ASSY		
-			N88-3008-45	FLAT HEAD SCREW(FOR ROD)		
A			N35-2605-46	BINDING HEAD MACHINE SCREW		
B			N09-1522-05	SET SCREW (3X8)		
C			N39-2025-46	PAN HEAD MACHINE SCREW		
D		*	N09-2705-05	MACHINE SCREW		
E			N89-2610-46	BINDING HEAD TAPTITE SCREW		
F			N19-1179-05	FLAT WASHER		
G			N89-2608-46	BINDING HEAD TAPTITE SCREW		
55	3B	*	S33-1022-05	LEVER SWITCH(S1/LIMIT)		
56	2B	*	S33-2061-05	LEVER SWITCH(S2/OPEN,CLOSE)		
60	2B	*	T42-0530-05	DC MOTOR(M3/TRAY)		
61	3B	*	T42-0531-05	DC MOTOR(M2/SPINDLE)		
62	3B	*	T42-0532-05	DC MOTOR(M1/FEE)		
63	2B	*	T50-1044-04	YOKE		
64	2B	*	T99-0233-05	MAGNET		
MECHANISM ASS'Y (X92-1400-00) : SINGAPORE MADE						
101	1C		A10-2513-01	CHASSIS	S	
104	3D		A11-0625-02	SUB CHASSIS	S	
114	1D		D10-2324-03	SLIDER		
115	2D	*	D10-2315-04	ROD	S	
116	1D		D13-0807-04	GEAR(INTERMEDIATE)		
117	1D		D13-0808-02	GEAR(MAIN)		
119	2D		D13-0802-08	GEAR(A)	S	
120	2D		D13-0803-08	GEAR(B)	S	
121	1D		D13-0813-04	GEAR(PULLEY)		
122	2D		D15-0296-04	MOTOR PULLEY		
123	1D		D16-0284-03	BELT	S	
124	2D		D40-0876-05	MECHANISH ASSY	S	
127	1D		E23-0343-04	TERMINAL(SHORT)		
128	2D		E31-7135-05	WIRING HARNESS(WHITE/BLUE)	S	
129	2D		E31-7136-05	WIRING HARNESS(WHITE/RED)	S	
130	2D		E31-7137-05	WIRING HARNESS(5P)	S	
131	3D		E40-4117-08	CONNECTOR PIN(4P)	S	

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DP-730

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134	2D		F07-0554-08	GEAR COVER		
135	1D	*	F19-1015-04	BLIND PLATE	S	
138	3D		G01-2394-04	COMPRESSION SPRING(FRONT)	S	
139	3D		G01-2395-04	COMPRESSION SPRING(REAR)	S	
140	1D		G02-0926-04	FLAT SPRING(L)		
141	1D		G02-0927-04	FLAT SPRING(R)		
142	2C	*	G16-0743-04	SHEET	S	
143	2C	*	G16-0745-04	SHEET	S	
144	2D		J19-3148-08	SHAFT CLAMP	S	
145	3D		J25-6135-08	MOTOR PCB		
146	2D		J90-0640-08	SLIDER HOLDER(J)	S	
147	3D	*	J02-1027-08	INSULATOR	S	
148	2D		J11-0130-03	CLAMPER	S	
149	2D		J91-0385-08	PICKUP(KSS-150A(H))		
150	3D		J42-0175-04	BUSHING	S	
151	1C		J99-0069-01	TRAY	S	
152	2C	*	J99-0070-03	TRAY ASSY	S	
A			N35-2605-46	BINDING HEAD MACHINE SCREW		
B			N09-1522-05	SET SCREW (3X8)		
C		*	N39-2005-46	PAN HEAD MACHINE SCREW		
D			N89-2608-46	BINDING HEAD TAPTITE SCREW	S	
E			N09-2670-08	SCREW		
F			N09-2671-08	SCREW	S	
G			N89-2606-46	BIND HEAD TAPTITE SCREW		
H			N19-1217-04	FLAT WASHER	S	
155	3D		S46-1128-08	LEAF SWITCH(S1/LIMIT)	S	
156	2D		S33-2061-05	LEVER SWITCH(S2/OPEN,CLOSE)		
160	2D		T42-0530-05	DC MOTOR(M3/TRAY)		
161	2D		T42-0528-08	DC MOTOR(M2/SPINDLE)	S	
162	3D		T42-0527-08	DC MOTOR(M1/FEE)		
163	2D		T50-1046-04	YOKE	S	
164	2D		T99-0233-05	MAGNET		
MECHANISM ASS'Y (X92-1440-00) : FRANCE MADE						
201	1E	*	A10-2565-01	CHASSIS	F	
204	3F	*	A11-0638-02	SUB CHASSIS	F	
214	1F		D10-2324-03	SLIDER		
215	2F		D10-2315-08	ROD		
216	1F		D13-0807-04	GEAR(INTERMEDIATE)		
217	1F		D13-0808-02	GEAR(MAIN)		
219	2F		D13-0802-08	GEAR		
220	2F		D13-0803-08	GEAR		
221	1F		D13-0813-04	GEAR(PULLEY)		
222	2F		D15-0296-04	MOTOR PULLEY		
223	1F		D16-0284-03	BELT		
224	2F		D40-0876-05	MECHANISH ASSY		
227	1F		E23-0343-04	TERMINAL		
228	2F		E31-7136-05	WIRING HARNESS(WHITE/RED)		
229	2F		E31-7135-05	WIRING HARNESS(WHITE/BLUE)		
230	2F		E31-7137-05	WIRING HARNESS		
231	3F		E40-4117-08	CONNECTOR PIN(4P)		
234	2F		F07-0554-08	GEAR COVER		

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FRANCE MADE SINGAPORE MADE JAPAN MADE

FRANCE MADE

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235	1F	*	F19-1015-04	BLIND PLATE		
238	3F		G01-2394-04	COMPRESSION SPRING(FRONT)		
239	3F		G01-2395-04	COMPRESSION SPRING(REAR)		
240	1F		G02-0926-04	FLAT SPRING(L)		
241	1F		G02-0927-04	FLAT SPRING(R)		
242	1E	*	G16-0743-04	SHEET		
243	2E	*	G16-0745-04	SHEET		
244	2F		J19-3148-08	SHAFT CLAMP		
245	3F		J25-6135-08	MOTOR PCB		
246	2F		J90-0640-08	SLIDER HOLDER(J)		
247	3F		J02-1027-05	INSULATOR		
248	2F		J11-0130-03	CLAMPER		
249	2F		J91-0385-08	PICKUP(KSS-150A(H))		
250	3F		J42-0175-04	BUSHING		
251	1E		J99-0069-01	TRAY		
252	2E	*	J99-0076-03	TRAY ASSY		
A			N35-2605-46	BINDING HEAD MACHINE SCREW		
B			N09-1522-05	SET SCREW (3X8)		
C		*	N39-2005-46	PAN HEAD MACHINE SCREW		
D			N89-2608-46	BINDING HEAD TAPTITE SCREW		
E			N09-2670-08	SCREW		
F			N09-2671-08	SCREW		
G			N89-2606-46	BINDING HEAD TAPTITE SCREW		
H			N19-1217-04	FLAT WASHER		
255	3F		S46-1128-08	LEVER SWITCH(S1/LIMIT)		
256	2F		S33-2061-05	LEVER SWITCH(S2/OPEN,CLOSE)		
260	2F		T42-0530-05	DC MOTOR(M3/TRAY)		
261	2F		T42-0528-08	DC MOTOR(M2/SPINDLE)		
262	3F		T42-0527-08	DC MOTOR(M1/FEE)		
263	2F		T50-1046-04	YOKE		
264	2F	*	T99-0233-05	MAGNET		

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SPECIFICATIONS

Format

Type	Compact disc player
Read system	Non-contact optical pickup
Rotational speed	About 200 to 500 rpm (CLV)

Audio

Frequency response	5 Hz ~ 20 kHz, ±0.2 dB
Signal-to-noise ratio	More than 96 dB
Total harmonic distortion	Less than 0.01% at 1 kHz
Channel separation	More than 96 dB at 1 kHz
Wow flutter	Below measurable limit
Output level / impedance	1.2 V / 1.0 kΩ

General

Power consumption	10 W
Maximum dimensions	W : 360 mm (14-3/16")
	H : 107 mm (4-3/16")
	D : 352 mm (13-7/8")
Weight	3.9 kg (8.6 lb)

Note :
KENWOOD follows a policy of continuous advancements in development.
For this reason specifications may be changed without notice.

Note :
Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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